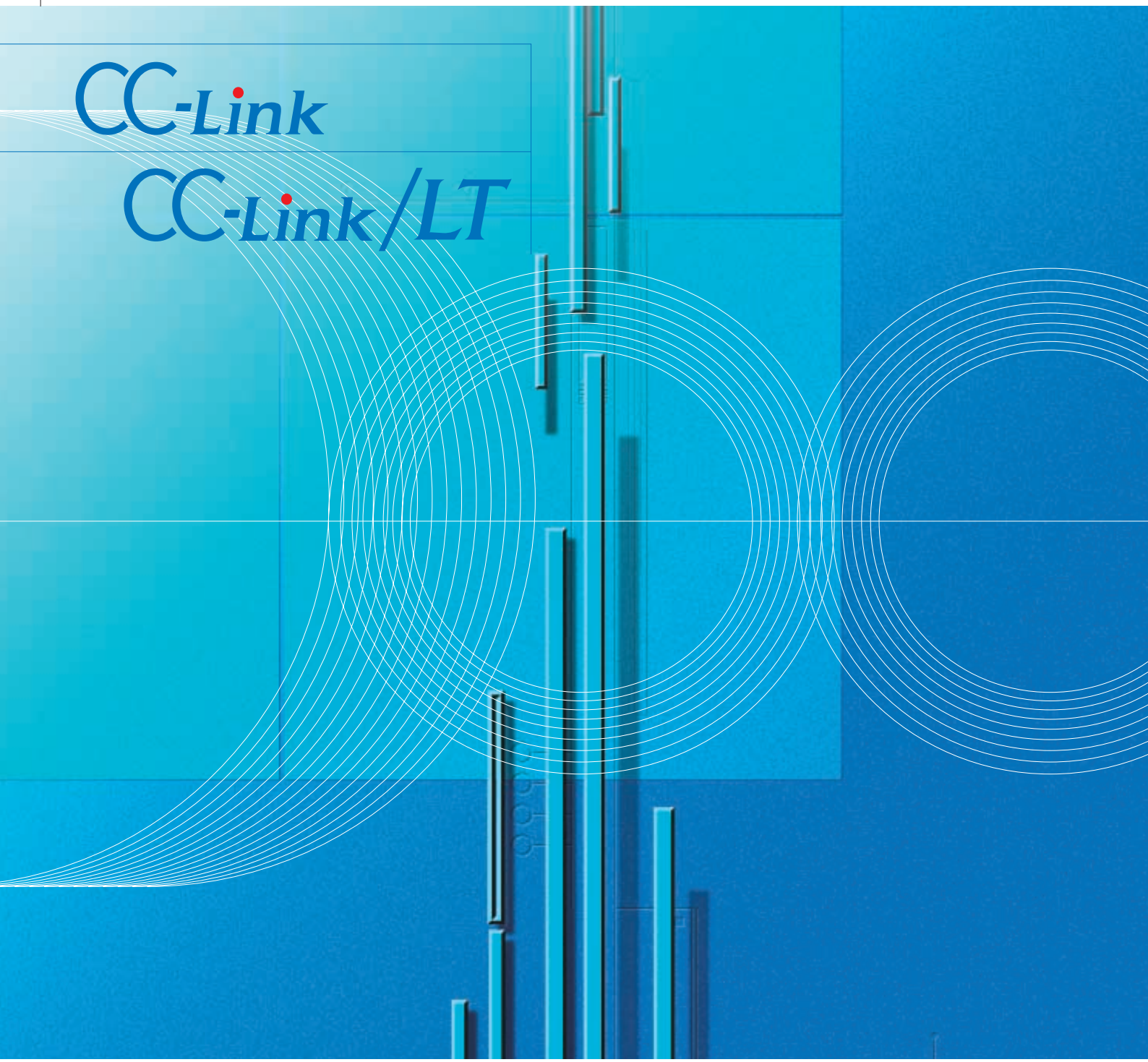
2007 | Mar

MITSUBISHI ELECTRIC

Changes for the Better

Open Field Network CC-Link, CC-Link/LT Catalog



MELFANS web
MITSUBISHI ELECTRIC
FA NETWORK SERVICE ON WORLD WIDE
http://MitsubishiElectric.co.jp/melfansweb/english/

MELSOFT

Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001 (standards for quality assurance management systems)

ISO 14001 JACO EC97J1113
UKAS ENVIRONMENTAL MANAGEMENT 051

Certified ISO 9001 by BVQI
UKAS QUALITY MANAGEMENT 008

Strategic Network, CC-Link & CC-Link/LT.

Strong Manufacturers
Stay One Step Ahead of Others with
CC-Link & CC-Link/LT

CC-Link
CC-Link/LT

Let's Start Powerful Factory Automation.
Let's Connect with Powerful Networks.

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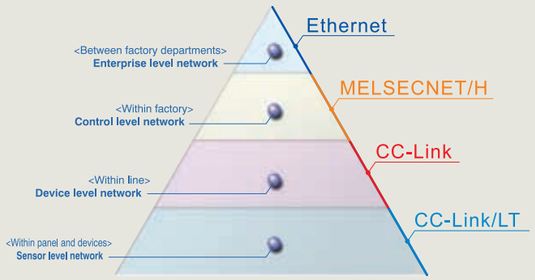
Opening up the Future of FA Networks and Focusing on what's to come. Changes for the better - Mitsubishi Electric

We provide total support in constructing seamless networks in all scenes, from offices to production sites, under a consistent design philosophy.
With flexible approaches backed by "Ethernet," "MELSECNET/H" and "CC-Link", a SEMI-certified, world standard field network originated in Japan, and "CC-Link/LT", a sensor level network adhering to the design concept of CC-Link, we propose a network-based FA environment, fit for your needs.

Seamless integration of the network over all layers



[Within line] Device level network CC-Link

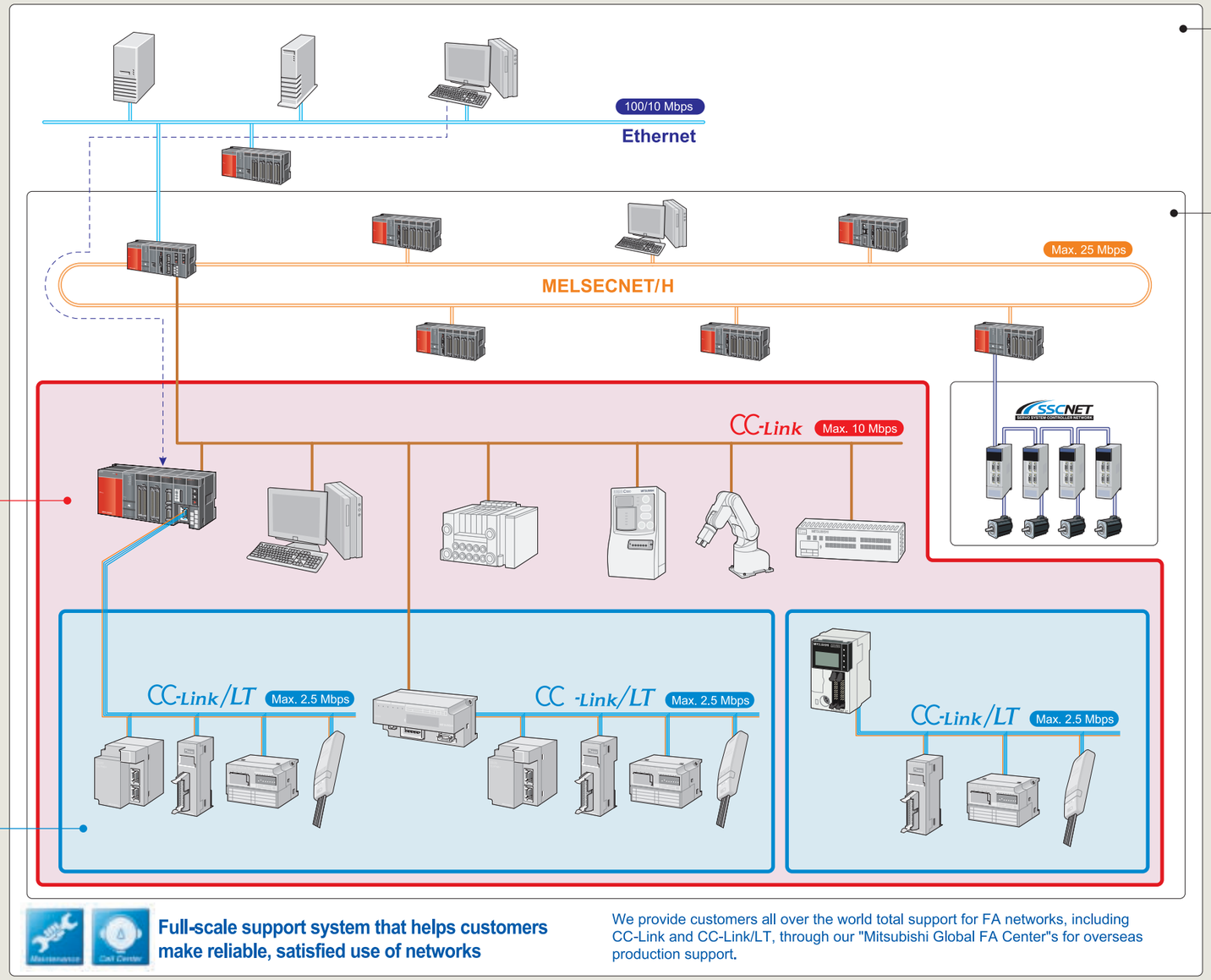
CC-Link is a high-speed field network capable of controlling the system and handling information at the same time, and offers high-speed, reliable input/output response and highly flexible expandability. This distinguished performance the network earned SEMI certification. A Japanese-origin, world standard open field network, CC-Link holds a large market share and has been winning the confidence of customers.

- High-speed communication at a maximum baud rate of 10 Mbps
- Remote input/output (RX, RY): 8,192 points each
  Remote register (RWw) : 2,048 words
  (RWr) : 2,048 words
  (when CC-Link Ver. 2.0 is used)
- Integration with 3rd party manufacture products

[Within panel and devices] Sensor level network CC-Link/LT

CC-Link/LT is a sensor level network designed so that all production sites are free from complicated wiring or incorrect wiring. It inherits openness, high speed, and noise resistance from the CC-Link family and at the same time ensures reduced wiring because of its simple setting and easy installation.

- Easy installation using dedicated connectors
- The adoption of point number modes (fou points, eight points, 16 points) permits effective use of I/O points.
- The maximum number of link points is 1,024 in 16-point mode.



[Between factory departments] Enterprise level network Ethernet

The top layer of the Network hierarchy. It contributes to higher production efficiency through the collection and management of various production information around a plant.

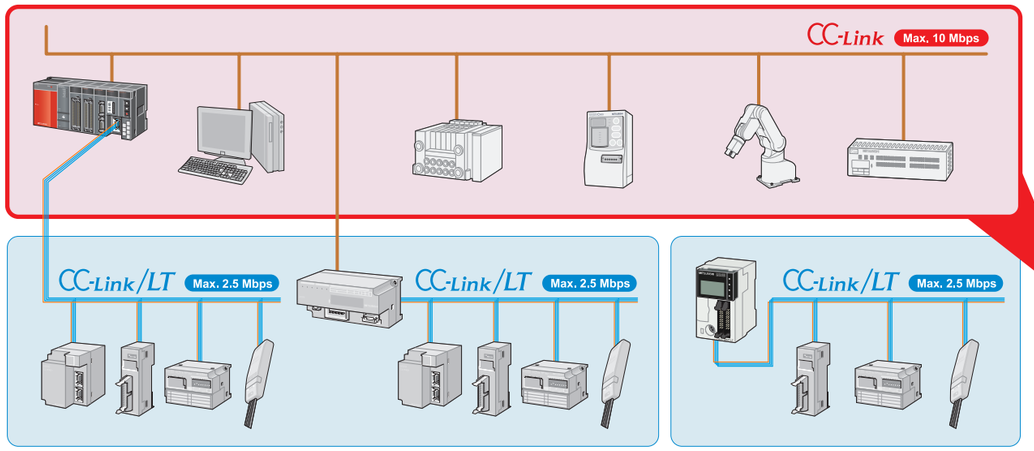
[Within factory] Control level network MELSECNET/H

MELSECNET/H allows communication between controllers on a line. Its high-speed communication and large-capacity link device ensures real-time transmission of data relating directly to the operation and performance of machines and equipment among controllers.

Full-scale support system that helps customers make reliable, satisfied use of networks

We provide customers all over the world total support for FA networks, including CC-Link and CC-Link/LT, through our "Mitsubishi Global FA Center"s for overseas production support.

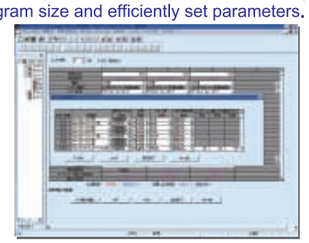
CC-Link - Proceeding toward a World Standard Network



	CC-Link	CC-Link/LT
Control methods	I/O control + intelligent distribution	I/O control
Cable	Dedicated fixed cable, dedicated flexible cable, built-in power cable	Dedicated flat cable, VCTF (Vinyl Cabtire Code), dedicated flexible cable
Maximum number of link points	RXRY: 8192 points each, RWr: 2048 words, RWw: 2048 words (Ver2.0)	RXRY: 1024 points each
I/O Module Line-up	Screw terminal block, spring terminal block, e-CON, Push-in connector, waterproof connector, 40-pin connector	Screw terminal block, spring terminal block, e-CON, MIL connector, cable connector
Max. cable distance	1200 m (at 156 kbps) Extendable up to 13.2 km when repeater is used	Trunk: 500 m Branch: 200 m (at 156 kbps)
Parameter setup	GX Developer	Not required
Number of link points per station	<Ver1.0> RXRY: 32 points each, RWr: 4 words, RWw: 4 words <Ver2.0> RXRY: 128 points each, RWr: 32 words, RWw: 32 words	Max, 16 points (in 16-point mode)
Network topology	Bus topology T-branch topology Star topology	T-branch topology

For improved setup efficiency [Simple parameter setup]

You can set parameters on CC-Link using only the MELSEC total programming tool "GX Developer." You can significantly reduce program size and efficiently set parameters.

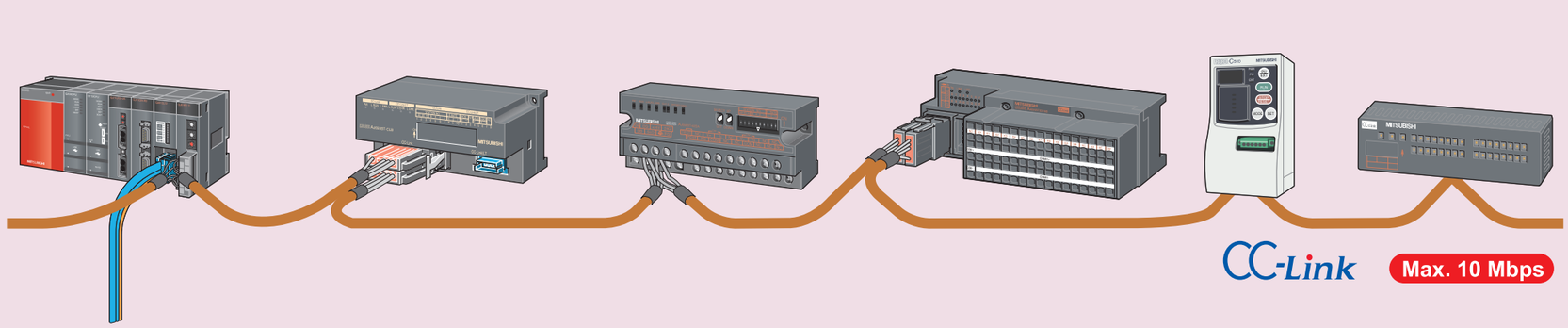


For achieving complex control, high-mix low-volume production [High-speed, high-capacity transmission]

CC-Link is a high-performance network that utilizes high-speed communications (10 Mbps -top level in the industry-), in order to allow transmission of bit data and word data at high-speed and maximum capacity.

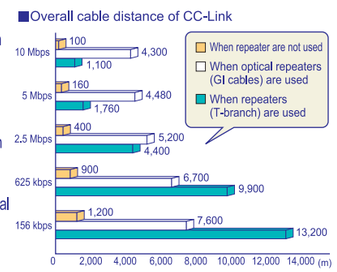
For a simple and cost effective network [Reduced-wiring network]

CC-link realizes simple and cost-effective network, and it is designed to relieve production lines from complicated wiring.



Large-scale applications from Factory Automation through building management [Max. cable length of 13.2 km]

The total distance covered by the CC-Link network can be increased up to 1.2km (at 156 kbps). Additionally, the transmission distance can be further extended through the use of T-branch repeater modules. Optical repeaters can also be used so that CC-Link deal with various large-scale facilities.



A diverse range of products from partner manufacturers [Multi-vendor system]

More than 500 type of products are supplieds from more than 500 companies worldwide.

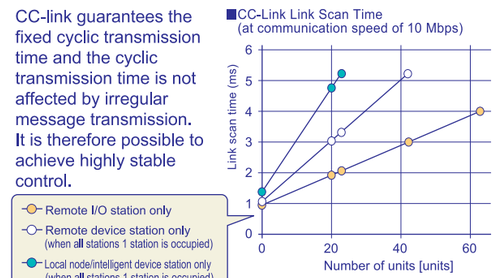
For non-stop operation [RAS functions]

CC-Link equips full RAS functionality by functions like Standby Master, Automatic Return, Slave Station Isolation and Diagnostics/Link Status Confirmation.

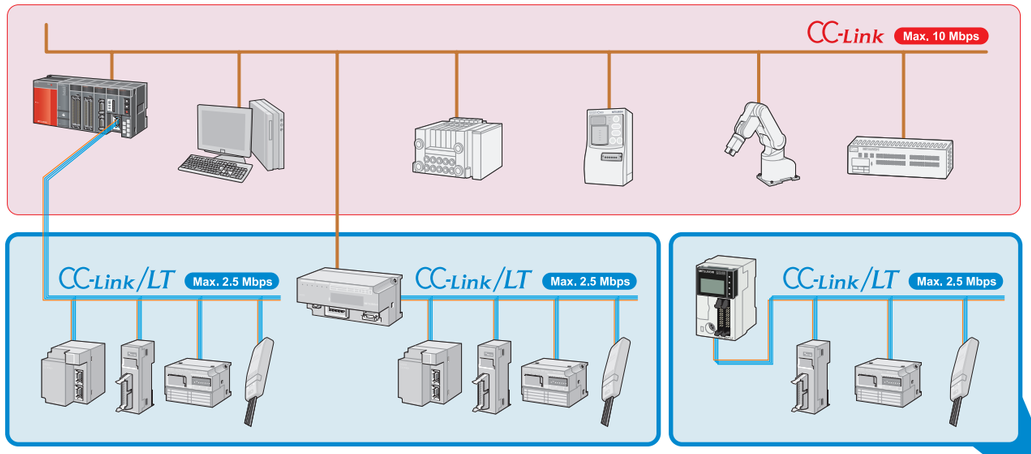
* RAS: Reliability, Availability, Serviceability

For improved network reliability [Consistent network communication time]

CC-link guarantees the fixed cyclic transmission time and the cyclic transmission time is not affected by irregular message transmission. It is therefore possible to achieve highly stable control.



CC-Link/LT - in pursuit of benefits through wire saving.



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Network topology	Bus topology T-branch topology Star topology	T-branch topology

For Easy usage [No need of parameter settings]

Troublesome network parameter setting is unnecessary.
The communication speed setting is required for the master module only.

For High noise-resistance [Complying with EMC Directives]

CC-Link/LT also inherits the feature of CC-Link, complies with EMC directives for noise-resistance.

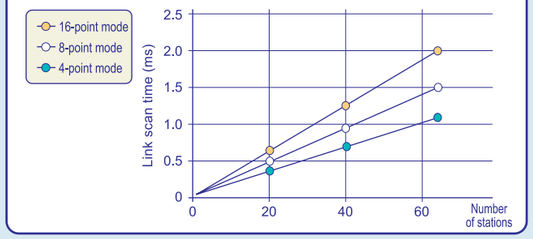
For Efficient use of I/O points [No wasting surplus I/O points]

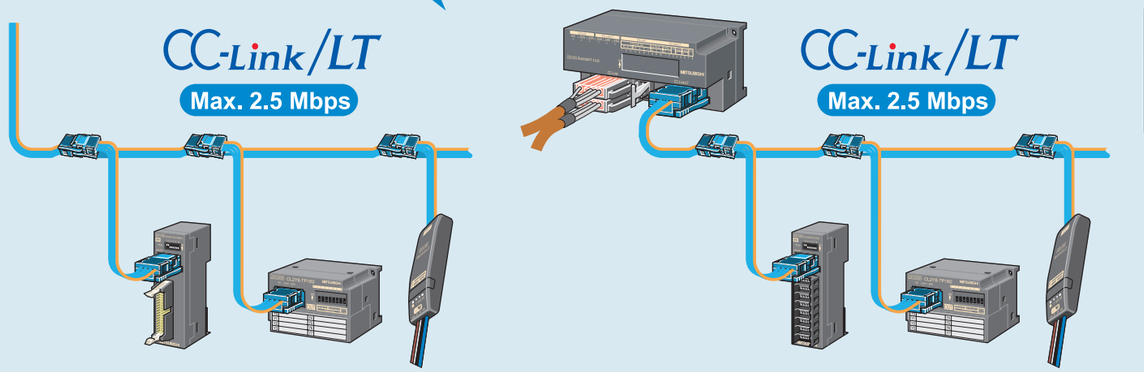
The adoption of the point mode (4, 8, 16 points) enables I/O assignment that makes full utilization of the available number of points.

For high-speed control [fast response]

When 64 stations are connected, link scan time is a maximum of 1.2 ms(at 2.5Mbps), achieving excellent fast response performance.

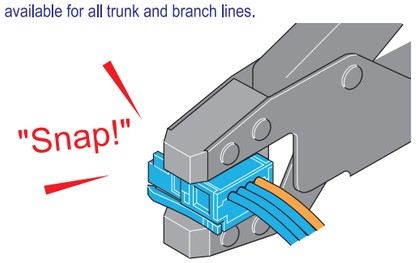
■CC-Link/LT Link Scan Time (at communication speed of 2.5 Mbps)





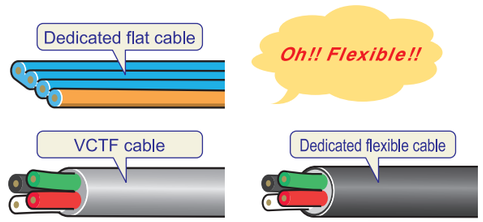
For rapid startup of systems [easy installation]

◎Using dedicated connectors and cables can reduce wiring works.
◎Communication connectors are a male/female integrated type and available for all trunk and branch lines.



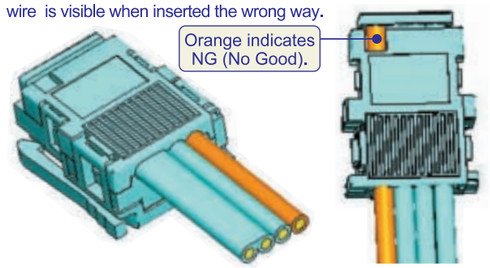
Cable specific to application requirements [extensive lineup of cables]

Dedicated flat cable, VCTF cable and Dedicated flexible cable.



Improving reliability [prevention of miswiring]

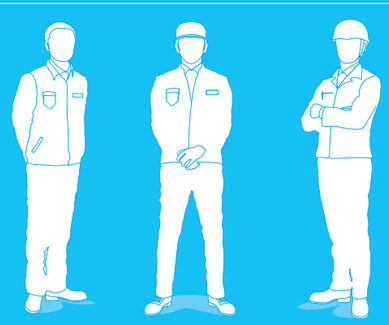
Dedicated cable shape is designed to prevent miswiring. The orange wire is visible when inserted the wrong way.



For hose in design, production and maintenance

CC-Link & CC-Link/LT Responds to Your Requests

CC-Link & CC-Link/LT
provide solutions
for each challenge in the field.



Each person in charge of engineering, production and maintenance has his/her own challenge.
CC-Link and CC-Link/LT responds to each challenge with a solution.
CC-Link is an establishined open field network originatied from Japan.
Fully inheriting the CC-Link concept, CC-Link/LT is specifically designed as a sensor level network.
"I want this."
"I need this."
CC-Link & CC/Link/LT provides a function for each challenge on the network.

Engineering section (P11, P12)

More functions...

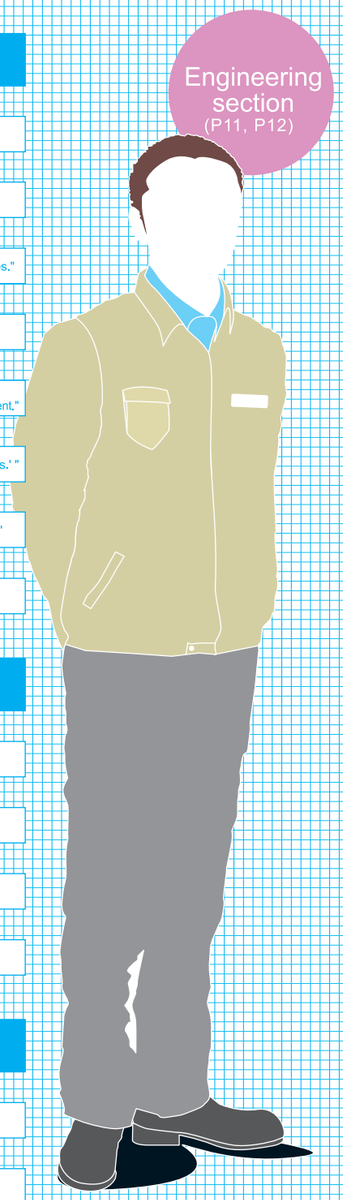
- CC-Link: "I want a flexible production system."
- CC-Link: "I need complex control features."
- CC-Link: "I want to connect lots of analog devices."
- CC-Link: "I want a distributed control system."
- CC-Link: "I want to connect between lines." "I want a network for building management."
- CC-Link: "I want to connect HMIs and 'ANDONs.' "
- CC-Link: "I want to connect drives and servos."
- CC-Link/LT: "I need high-speed sensor inputs."

More simple...

- CC-Link: "I want to connect lots of devices."
- CC-Link: "I need an easy network."
- CC-Link/LT: "I want to use remote I/O."
- CC-Link/LT: "I need widely used cables."

More secure...

- CC-Link: "I need high noise resistance."
- CC-Link: "I need various devices on a single network."
- CC-Link: "I want to export our facilities and machinery overseas."



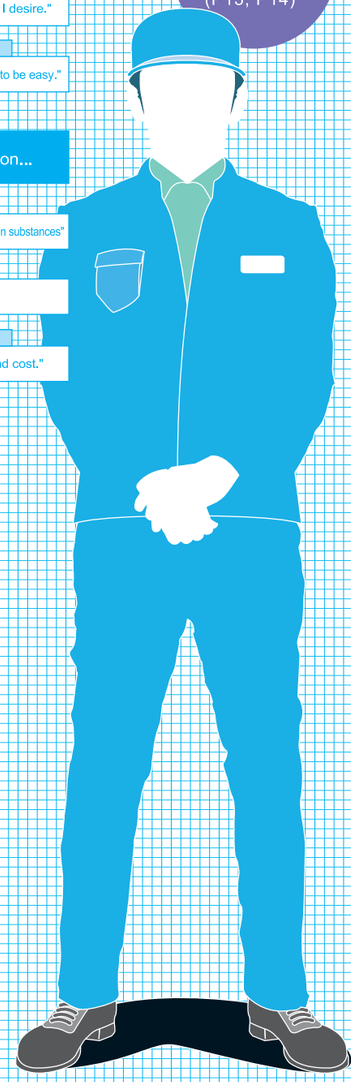
Production section (P13, P14)

At assembly...

- CC-Link / CC-Link/LT: "I want to arrange devices as I desire."
- CC-Link / CC-Link/LT: "I need assembly/ disassembly to be easy."

At testing/operation...

- CC-Link: "I want to prevent trouble from foreign substances"
- CC-Link: "I need quick check-up."
- CC-Link / CC-Link/LT: "I want to save wiring time and cost."



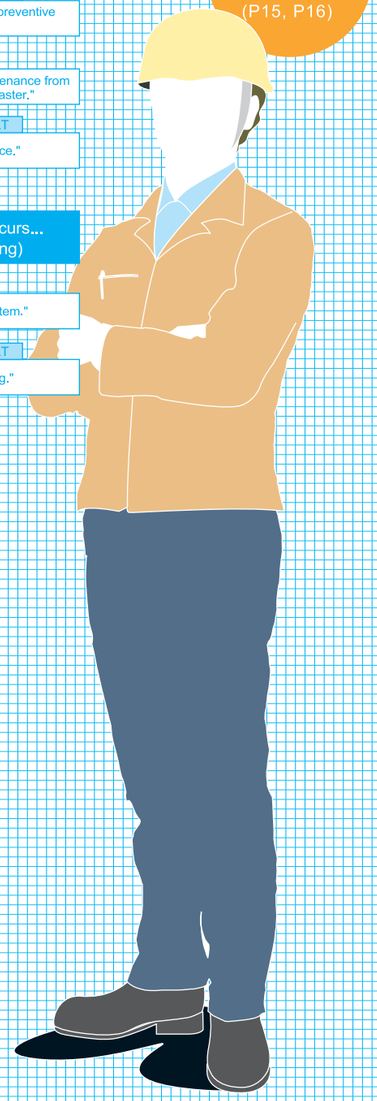
Maintenance section (P15, P16)

Preventing trouble

- CC-Link / CC-Link/LT: "I need network testing for preventive maintenance."
- CC-Link: "I want to do network maintenance from sites away from the PLC master."
- CC-Link / CC-Link/LT: "I need high noise resistance."

When trouble occurs... (troubleshooting)

- CC-Link: "I don't want to stop my system."
- CC-Link / CC-Link/LT: "I need easy troubleshooting."



The solutions provided by CC-Link & CC-Link/LT begin from here.

Requests from the Engineering section: "Want to develop a flexible manufacturing system!" CC-Link & CC-Link/LT meets even more requests from engineers

CC-Link ensures...

"I want a flexible production system."

►CC-Link is a high-speed and high-capacity network.

CC-Link is a high speed field network that can handle both control and information together.

■High-speed/High-capacity data transmission

<High-capacity Cyclic Transmission Data>

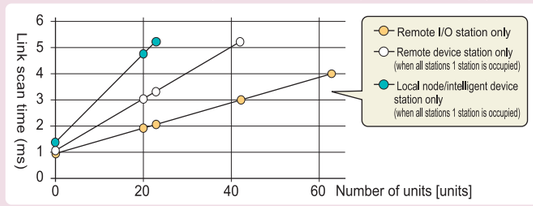
Data capacity: Remote I/O (RX, RY)=8192 points each
Remote register (RWw)=2048 words
(RWr)=2048 words (when Ver2.0 is used)

"I need complex control features."

►CC-Link guarantee consistent communication time.

The cyclic transmission time is not affected by irregular message transmission to the HMI products. It is possible to achieve highly stable control.

■CC-Link Link Scan Time (at communication speed of 10 Mbps)



"I want to connect lots of analog devices."

►CC-Link V2 supports an extra broader range of needs.

CC-Link Ver.2 can control maximum eight times the data capacity compared with earlier CC-Link compatible products. CC-Link Ver.2 compatible analog modules are applicable to process control.

■CC-Link Ver2.0-compatible analog module

CC-Link Ver1.0 — Up to 21 modules can be connected.

"CC-Link V2 has a double module connection capacity

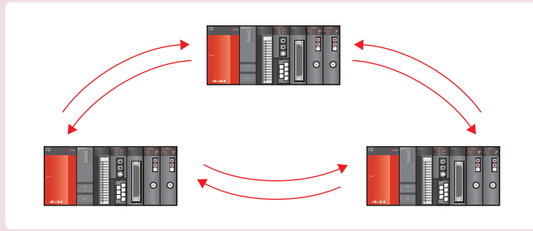
CC-Link V2 — Up to 42 modules can be connected.

"I want a distributed control system."

►CC-Link realizes simple distributed control.

CC-Link provides highly stable cyclic transmission, which enables N:N communication between controller masters or local stations. This N:N communication method between controllers realizes a distributed control system for each system.

■Simple controller communication



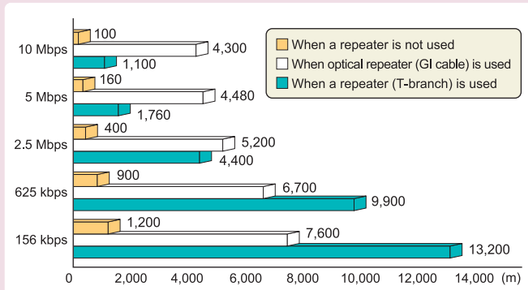
"I want to connect between lines."
"I want a network for building management."

►The total extended distance of the CC-Link cable is 1,200 m, and can be extended up to 13.2 km when repeaters are used.

CC-Link total extended distance can be as long as 1.2 km*. The transmission distance can be extended up to 13.2 km* when T-branch repeaters are used.

* Maximum transmission distance when transmission speed is set to 156 kbps.

■Overall cable distance of CC-Link



"I want to connect HMIs and 'ANDONs.' "

►CC-Link can connect HMIs and ANDONs by transient transmission.

CC-Link simplifies data transfer to HMIs and ANDON with transient transmission (up to 960 bytes) and cyclic transmission.

"I need an easy network."

►CC-Link parameter setting can be done with only GX Developer.

The total programming tool "GX Developer" with improved operability. Makes full use of the advantages of Windows® and enables you to set CC-Link parameters without a program.

"I need a reliable network."

►CC-Link achieves high reliability with dedicated cables.

CC-Link uses dedicated cables that support high-speed transmission up to 10 Mbps. These cables are also highly noise-resistant.

■CC-Link dedicated cable

"I want to connect lots of devices."

►CC-Link V2 can control up to 8192 points and 4096 words.

CC-Link Ver2.0 can transmit a maximum of eight times the data capacity compared with earlier CC-Link compatible products.

■Comparison of communication data

CC-Link Ver1.0	Remote I/O ····· (RX, RY) = 2048 points Remote register ····· (RWw) = 256 words (RWr) = 256 words
CC-Link V2	Remote I/O ····· (RX, RY) = 8192 points each Remote register ····· (RWw) = 2048 words (RWr) = 2048 words

CC-Link/LT ensures...

"I need high-speed sensor inputs."

►CC-Link/LT provides fast response.

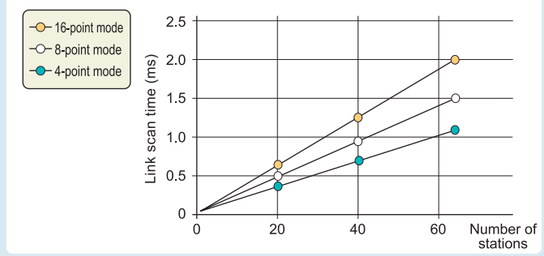
When 64 stations are connected, the link scan time is a maximum of 1.2ms (at 2.5Mbps). Select 2.5Mbps, 625kbps or 156kbps depending on the transmission distance.

"I want to use remote I/O."

►CC-Link/LT is not required to make parameter setting.

Troublesome network parameter setting is unnecessary. The communication speed setting is required for the master module only. There is no need to set the communication speed on the remote station.

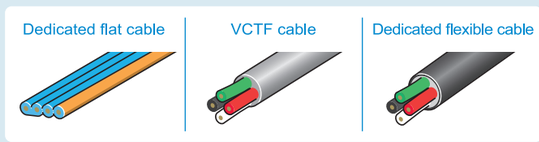
■CC-Link/LT Link Scan Time (at communication speed of 2.5 Mbps)



"I need widely used cables."

►CC-Link/LT specifies cables to application requirements.

Dedicated flat cable, VCTF cable and dedicated flexible cable are available.



CC-Link also lets you...

"I want to connect drives and servos."
►CC-Link allows GX Configurator-CC to read and write drives and servo parameters without a program, and perform monitoring and testing.

"I need various devices on a single network."
►Diverse range of products supplied from many partner manufacturers.

"I want to export our facilities and machinery overseas."
►CC-Link complies with various safety standards including UL standards.

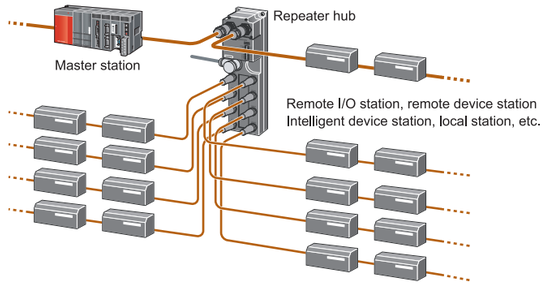
* For details, refer to MELFANSweb.

Requests from the production section: "Want to improve and Increase productivity!" CC-Link & CC-Link/LT provide various useful functions.

I want to arrange devices as I desire.

▶CC-Link allows flexible installation.

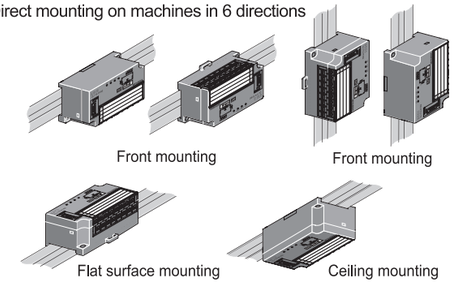
T-branch repeaters, wireless optical repeaters, optical repeaters, and repeater hubs are available with CC-Link. They enhance the freedom of application even at 10 Mbps.



▶CC-Link family remote I/O modules occupy a small footprint.

Compact type remote I/O modules with 32, 16, 8, 4, and 2 I/O points are available. They can be mounted in six different directions, including ceiling mounting, front mounting, and flat surface mounting, and selected according to the environment where they are to be mounted and the application.

■Direct mounting on machines in 6 directions

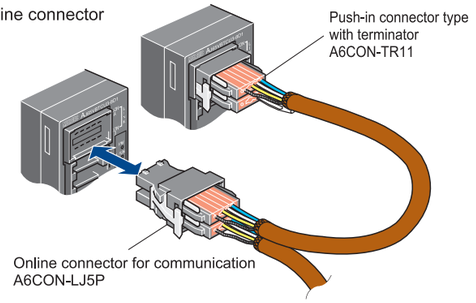


I need assembly/ disassembly to be easy.

▶CC-Link family products allows easy connection.

By using online connectors for communication and power supply, it is possible to replace modules without stopping the communication.

■Online connector



I want to prevent trouble from foreign substances

▶CC-Link protective cover protects I/O terminals.

The protective cover can be easily attached and removed. The transparent material allows you to check the LEDs and wiring conditions.

I need quick check-up.

▶CC-Link ensures easy setup and startup.

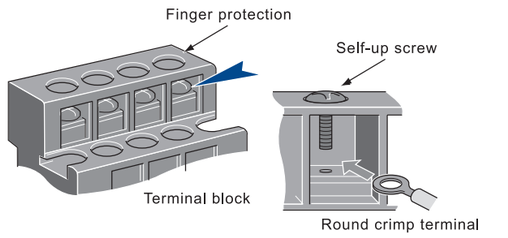
CC-Link's auto-startup function allows you to start up the network without the need to set network parameters.

I want to save wiring time and cost.

Dedicated connectors of CC-Link family are designed to reduce wiring works, cost and wiring mistakes.

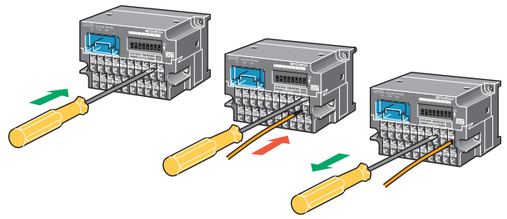
▶ Specific connection to application requirements

Screw terminal block type



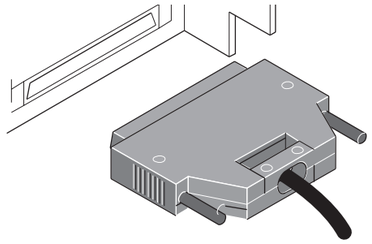
The round crimp terminal can be directly connected with the self-up screw by simply unfastening the terminal block screw.
* The specifications depend upon a product.

Spring clamp terminal block type



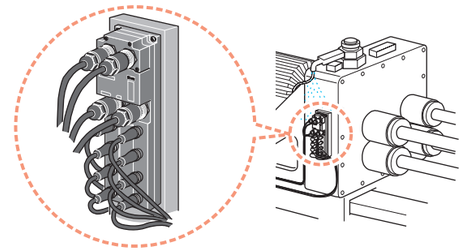
Spring clamps allows for quick and easy connectivity.

40-pin connector type



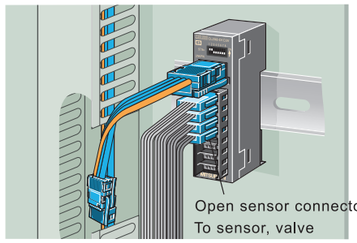
This type provides an easy and economical way of wiring.

Waterproof connector type (M12)



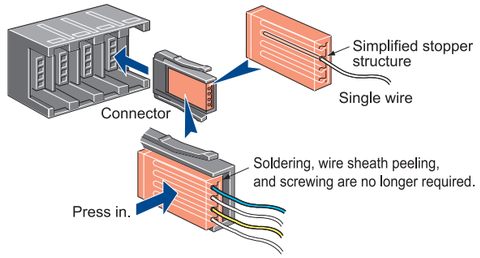
The waterproof type remote I/O module is housed in a protective structure conforming IP67. therefore it can be used without worry in an environment where water is present.

Sensor connector (e-CON) type



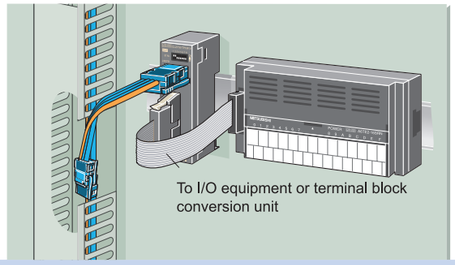
Utilizing the industry-standard e-CON, sensors can be replaced individually.

Push-in connector type



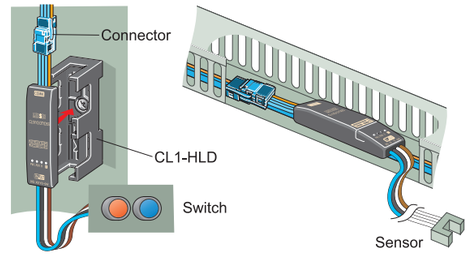
This connector adopts a lock mechanism that is easy to lock and unlock. You can connect single wires by simply pushing in the connector.

MIL connector type



This is the industry's smallest connector in its class, and can be easily connected to a relay terminal or terminal block conversion module.

Cable type



This is the industry's smallest connector in its class. Suited to fit compactly into main trunking ducts.

Requests from the maintenance section: "I don't want stop my system and keep high operating rates!!" CC-Link & CC-Link/LT supports the maintenance work with secure functions.

Before trouble occurs... (preventive maintenance)

"I need network testing for preventive maintenance."

▶ CC-Link family products provides one-step-ahead preventive maintenance.

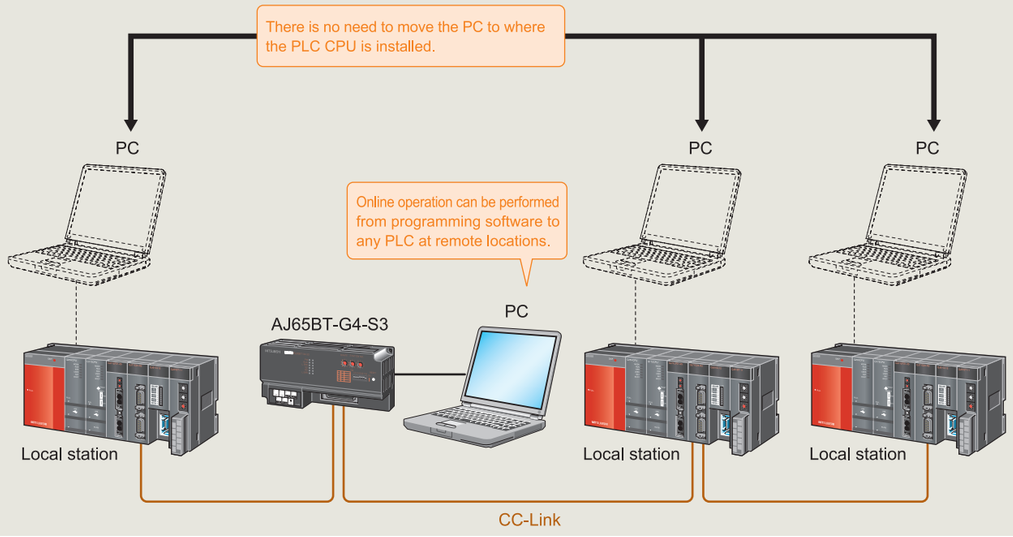
It is possible to check the data link status using special relays and registers. Hardware and line connection can be tested via offline tests.

"I want to do network maintenance from sites away from the PLC master."

▶ CC-Link provides remote operation functions.

By using the peripheral device connection module (AJ65BT-G4-S3) into the CC-Link system, it is possible to do network maintenance from sites away from PLC master.

■G4 module

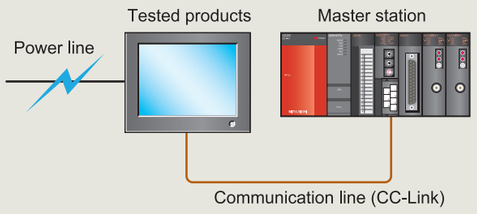


"I need high noise resistance."

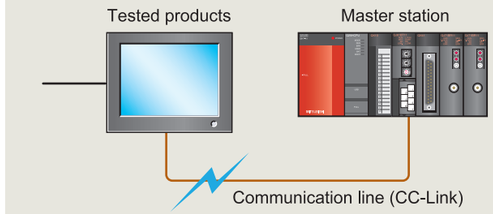
▶ CC-Link family compatible products are highly noise resistant guaranteed by conformance testing.

A conformance test is conducted for all products sold by CLPA partners. the test includes a power supply noise test and a bundle noise test.

■Power supply noise test (AC/DC)



■Bundle noise test



When trouble occurs... (troubleshooting)

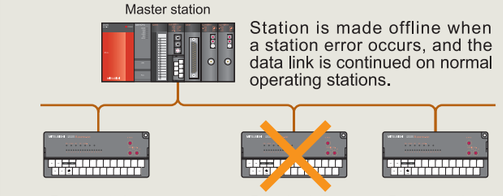
"I don't want to stop my system."

▶ CC-Link provides enhanced RAS functions.

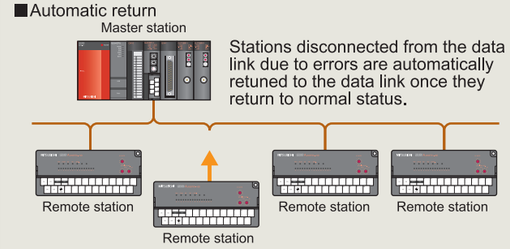
CC-link realizes minimal system shutdowns by "error invalid station setting," "slave station isolation," "automatic return," "standby master station," and "2-piece terminal block".

<Error invalid station setting>
In the online mode, this setting temporarily prevents modules specified on GX Developer from being treated as data link faulty stations.

■Slave station isolation

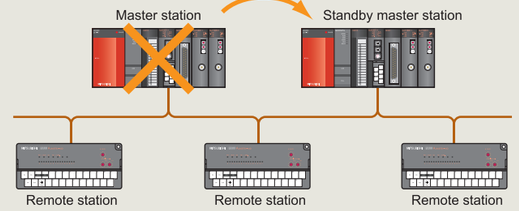

Master station
Station is made offline when a station error occurs, and the data link is continued on normal operating stations.
Remote station
Remote station
Remote station

■Automatic return


Master station
Stations disconnected from the data link due to errors are automatically retuned to the data link once they return to normal status.
Remote station
Remote station
Remote station
Remote station

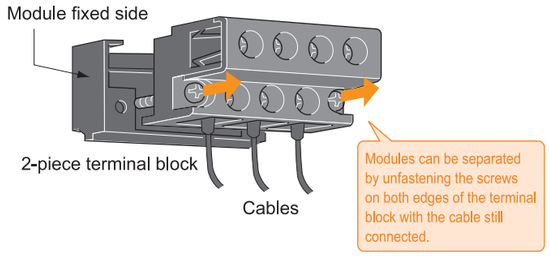
* When connecting offline stations on CC-Link/LT, make sure that the PLC CPU is in a STOP status.

■Standby master station



By setting a local station as a standby master station, the data link can be continued even if an error occurs in the master station.

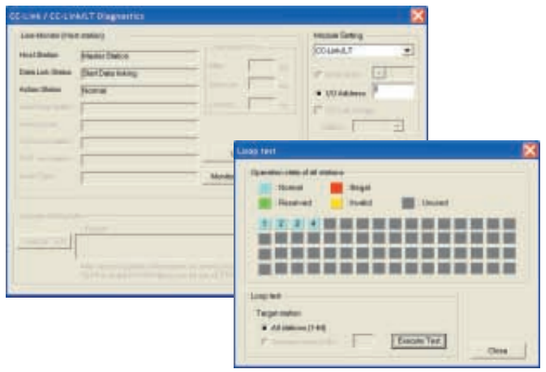
■The "2-piece terminal block" allows modules to be replaced without stopping the CC-Link system.


Module fixed side
2-piece terminal block
Cables
Modules can be separated by unfastening the screws on both edges of the terminal block with the cable still connected.

"I need easy troubleshooting."

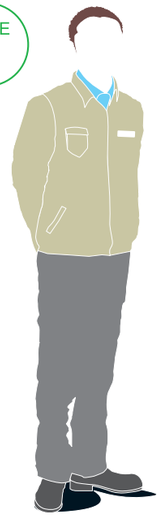
▶ CC-Link family Networks can be easily checked by GX Developer.

The status of the CC-Link and CC-Link/LT networks can be monitored by just GX Developer.



Case Study "CC-Link is superior to existing networks" Realize the advantages of CC-Link.

CASE 1



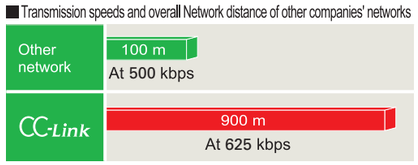
Mr. A from the engineering section

"My current network distance is limited to 100m, and the transmission speed is unstable."

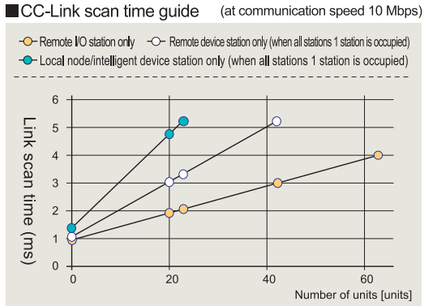
Mr. A plans to expand his factory. The first challenge is total cable distance and communication stability. What interested him is that the network distance covered by the CC-Link network can be increased up to 900m at 625kbps, and transmission time is stable as well.

Feature 1 CC-Link is high-speed network and total cable distance is long distance.
Feature 2 CC-Link is a consistent network.

■Transmission speeds and overall Network distance of other companies' networks



■CC-Link scan time guide (at communication speed 10 Mbps)

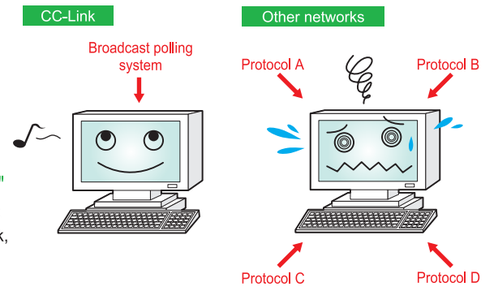


"Our factory's networks are complex because they use various protocols. How about CC-Link?"

CC-Link eliminates the need to use different protocols.

Feature 3
CC-link is a single protocol.

■Protocol comparison



"It takes too long to reconnect network stations."

Regarding this issue, Mr. A learned that CC-Link compatible products quickly return to the network, and began to feel more attraction to CC-Link.

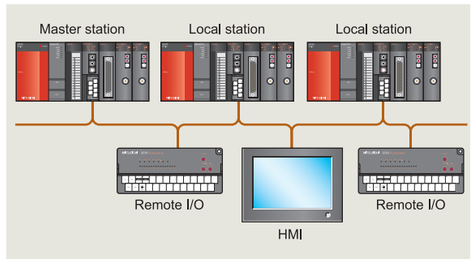
Feature 4
CC-Link offers quick return to the network system.

"I also need distributed control."

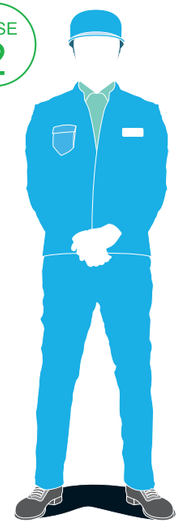
Also, using CC-Link, he easily realized "distributed control by establishing communication between controllers".

Feature 5
CC-Link is simple cotroll level network.

■Distributed control by simple inter-controller network



CASE 2



Mr. B from the production section

"Trunk cables and branch cables in the current network are different. Furthermore, trunk cables are expensive."

Mr. B is in charge of production engineering. He has been worried about utilization and high cost of the existing network. Therefore, he collected CC-Link information and compared it with other networks.

Feature 1 CC-Link is flexible to install. Feature 2 CC-Link is reasonably priced.

■Cable comparison

Item	CC-Link	Other network	
Cable diameter	7 mm	Thick cable: 12 mm	Thin cable: 7 mm
Trunk/ Branch	Trunk and branch	Trunk	Branch
Total cable length (no repeater)	Max. 1200 m (156 kbps)	Max. 500 m (125 kbps)	Max. 100 m (125 kbps) (250 kbps) (500 kbps)

"It is stressful to design the necessary power supply capacity of a network."

Mr. B used to be bothered by complicated calculations for the required power capacity. He soon learned that such bothersome calculation was not necessary.

Feature 3 CC-Link frees you from the need of calculation of the power supply capacity.

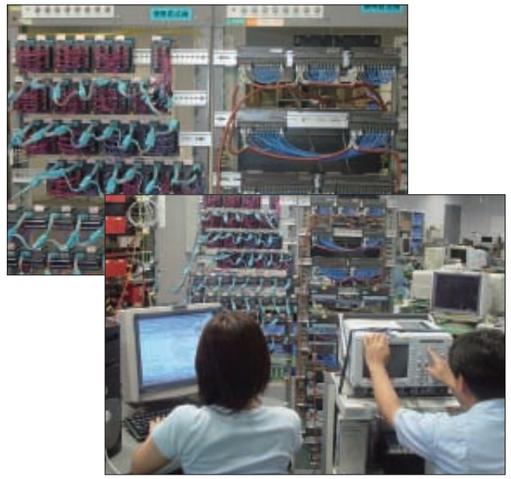
CASE 3

Mr. C from the maintenance section

"It concerns me that conformance testing is not mandatory in my current network."

Reliability is the most important for him. He was pleased that the conformance test guaranteed the high noise resistance of CC-Link.

CC-Link is reliable because the conformance test is mandatory.

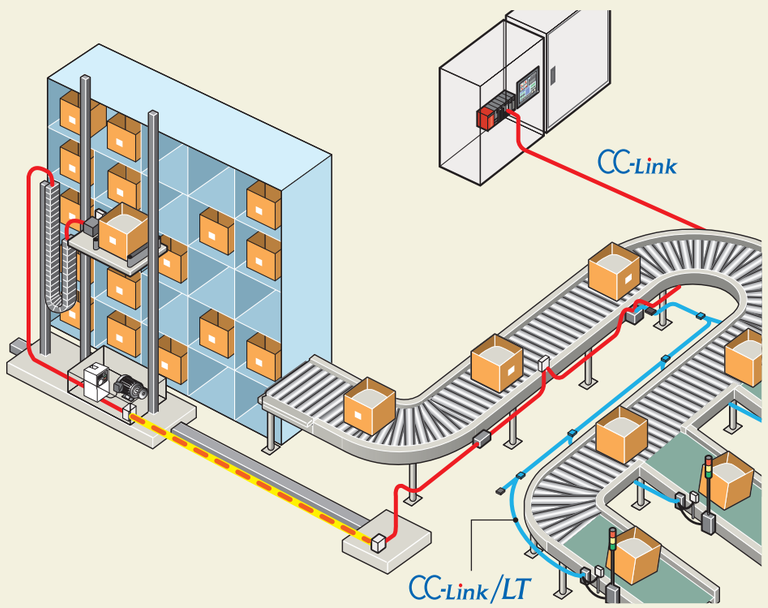


"That's why we chose CC-Link!"

Networks is a key factor in various business applications. The CC-Link family is the best solution.

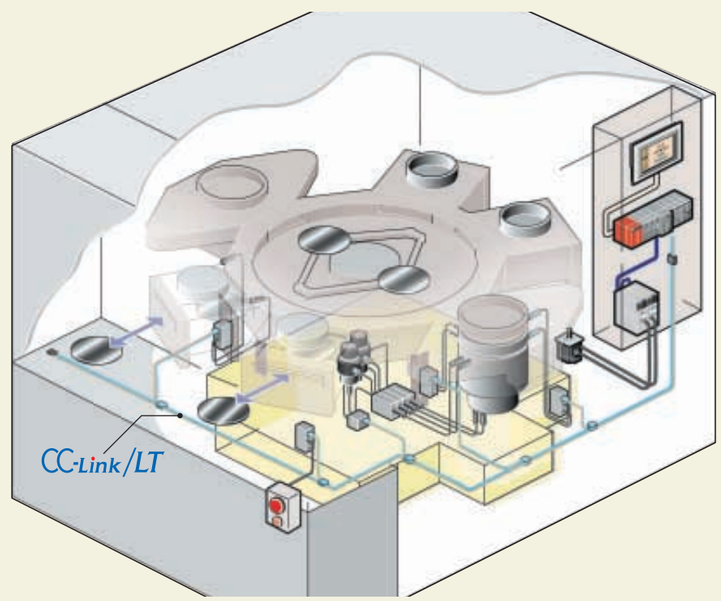
Material handling application

- Improved workability by repeaters — CC-Link
- Connection of various devices (Inverter, HMI) — CC-Link
- Cable specific to the application requirement. — CC-Link, CC-Link/LT
- Seamless communication using bridges — CC-Link/LT



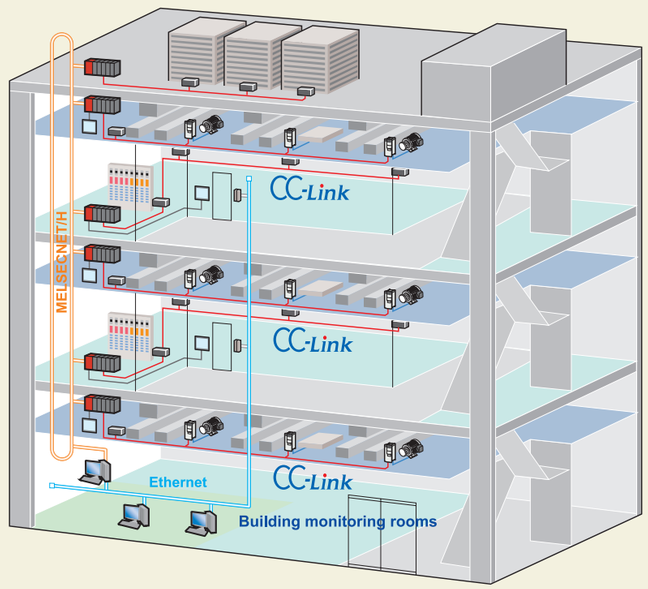
Semiconductor production application

- High-speed transmission — CC-Link/LT
- High noise resistance — CC-Link
- Wire saving Small footprint — CC-Link/LT
- Compliant to EES. — CC-Link



Building management application

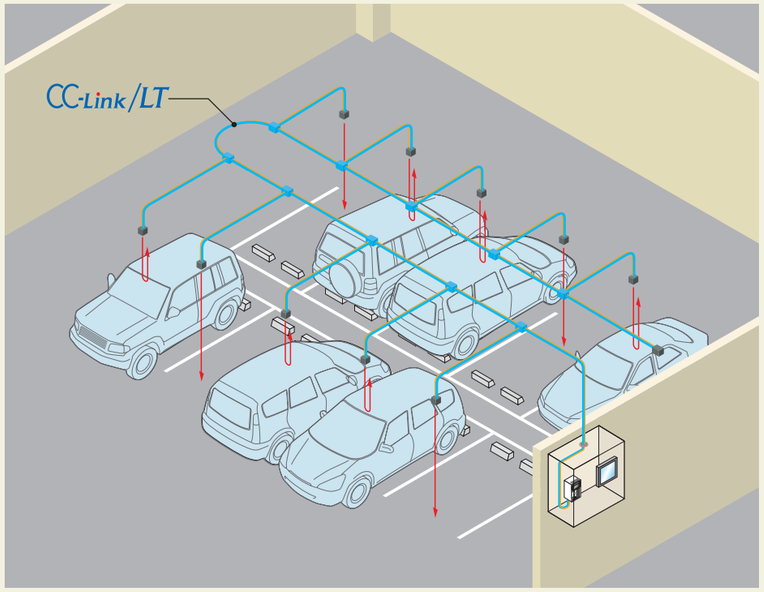
- The total cable distance up to 13.2 km by using repeaters — CC-Link
- Distributed control — CC-Link
- Seamless communication between Ethernet, MELSECNET/H and CC-Link — CC-Link



Parking lot application

<FX3UC and CC-Link/LT combination>

- High speed transmission — CC-Link/LT
- Wire saving Small footprint — CC-Link/LT
- Parameter-free setup work — CC-Link/LT
- Easy installation and setting up — CC-Link/LT



Master/local modules

For the Q Series

QJ61BT11N

CC-Link V2

Number of occupied I/O points : 32
Number of occupied stations :1 to 4 *1
(at local station) (can be set arbitrarily)

For the QnAS Series

A1SJ61QBT11

Number of occupied I/O points : 32
Number of occupied stations :1 to 4 *2
(at local station) (can be set arbitrarily)

For the AnS Series

A1SJ61BT11

Number of occupied I/O points : 32
Number of occupied stations :1 to 4 *2
(at local station) (can be set arbitrarily)

For the FX Series

FX2N-16CCL-M

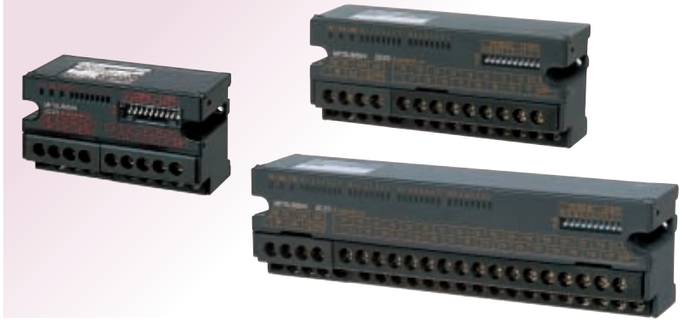
Number of occupied I/O points: 8

*1 The number of occupied stations at a local station is set by a parameter in GX Developer.
*2 The number of occupied stations at a local station is set by the "condition setting switch" on the front face of the modules.

Remote I/O modules

▶Terminal block type

Screw terminal block type AJ65SBTB□-□



Features

◎From the lineup including a variety of products, you can select the most suitable type to match the connection method and I/O specifications of external devices.

◎The protector covering the terminal block prevents personnel from touching charged parts, allowing direct installation to a target machine.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65SBTB2N-8A	AC input	-	100 VAC/7 mA	8 points	20 ms or less	Two wire type
AJ65SBTB2N-16A	AC input	-	100 VAC/7 mA	16 points	20 ms or less	Two wire type
AJ65SBTB1-8D	DC input	+COM/-COM common type	24 VDC/7 mA	8 points	1.5 ms or less	One wire type
AJ65SBTB3-8D	DC input	+COM/-COM common type	24 VDC/7 mA	8 points	1.5 ms or less	Three wire type
AJ65SBTB1-16D	DC input	+COM/-COM common type	24 VDC/7 mA	16 points	1.5 ms or less	One wire type
AJ65SBTB1-16D1	DC input	+COM/-COM common type	24 VDC/5 mA	16 points	0.2 ms or less	One wire type
AJ65SBTB3-16D	DC input	+COM/-COM common type	24 VDC/7 mA	16 points	1.5 ms or less	Three wire type
AJ65SBTB1-32D	DC input	+COM/-COM common type	24 VDC/7 mA	32 points	1.5 ms or less	One wire type
AJ65SBTB1-32D1	DC input	+COM/-COM common type	24 VDC/5 mA	32 points	0.2 ms or less	One wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65SBTB1-8T	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.25 mA or less	Yes	One wire type
AJ65SBTB1-8T1	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.1 mA or less	No	One wire type
AJ65SBTB2-8T	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.25 mA or less	Yes	Two wire type
AJ65SBTB2-8T1	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.1 mA or less	No	Two wire type
AJ65SBTB1-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.25 mA or less	Yes	One wire type
AJ65SBTB1-16T1	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type
AJ65SBTB2-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.25 mA or less	Yes	Two wire type
AJ65SBTB2-16T1	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	Two wire type
AJ65SBTB1-32T	Transistor output	Sink type	12/24 VDC/0.5 A	32 points	0.25 mA or less	Yes	One wire type
AJ65SBTB1-32T1	Transistor output	Sink type	12/24 VDC/0.5 A	32 points	0.1 mA or less	No	One wire type
AJ65SBTB1-8TE	Transistor output	Source type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes	One wire type
AJ65SBTB1-16TE	Transistor output	Source type	12/24 VDC/0.1 A	16 points	0.1 mA or less	Yes	One wire type
AJ65SBTB1B-16TE1 NEW	Transistor output	Source type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type
AJ65SBTB1-32TE1 NEW	Transistor output	Source type	12/24 VDC/0.5 A	32 points	0.1 mA or less	No	One wire type
AJ65SBTB2N-8R	Relay output	-	24 VDC, 240 VAC/2 A	8 points	-	No	Two wire type
AJ65SBTB2N-16R	Relay output	-	24 VDC, 240 VAC/2 A	16 points	-	No	Two wire type
AJ65SBTB2N-8S	Triac output	-	100 to 240 VAC/0.6A	8 points	1.5 mA or less (100 VAC)/3 mA or less (200 VAC)	No	Two wire type
AJ65SBTB2N-16S	Triac output	-	100 to 240 VAC/0.6A	16 points	1.5 mA or less (100 VAC)/3 mA or less (200 VAC)	No	Two wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of input points	Leakage current at OFF	Output protection function	External connection
AJ65SBTB32-8DT	DC input	+COM type	24 VDC/7 mA	4 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	4 points	0.25 mA or less	Yes	Three wire type/Two wire type
AJ65SBTB32-8DT2	DC input	+COM type	24 VDC/7 mA	4 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	4 points	0.1 mA or less	No	Three wire type/Two wire type
AJ65SBTB1-16DT	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTB1-16DT1	DC input	+COM type	24 VDC/5 mA	8 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTB1-16DT2	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.1 mA or less	No	One wire type/One wire type
AJ65SBTB1-16DT3	DC input	+COM type	24 VDC/5 mA	8 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.1 mA or less	No	One wire type/One wire type
AJ65SBTB32-16DT	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.25 mA or less	Yes	Three wire type/Two wire type
AJ65SBTB32-16DT2	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.1 mA or less	No	Three wire type/Two wire type
AJ65SBTB1-32DT	DC input	+COM type	24 VDC/7 mA	16 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	16 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTB1-32DT1	DC input	+COM type	24 VDC/5 mA	16 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.5 A	16 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTB1-32DT2	DC input	+COM type	24 VDC/7 mA	16 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type/One wire type
AJ65SBTB1-32DT3	DC input	+COM type	24 VDC/5 mA	16 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type/One wire type
AJ65SBTB1-32DTE1 NEW	DC input	-COM type	24 VDC/7 mA	16 points	1.5 ms or less	Transistor output	Source type	24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type/One wire type

Screw/2-piece terminal block type AJ65BTB□-□

Features

◎The I/O terminal block is removable.

◎The 2-piece structure allows easy servicing as the module can be replaced without rewiring.

Terminal block can be removed.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65BTB1-16D	DC input	+COM/-COM common type	24 VDC/7 mA	16 points	10 ms or less	One wire type
AJ65BTB2-16D	DC input	+COM/-COM common type	24 VDC/7 mA	16 points	10 ms or less	Two wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65BTB1-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	One wire type
AJ65BTB2-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	Two wire type
AJ65BTB2-16R	Relay output	-	24 VDC, 240 VAC/2.0 A	16 points	-	No	Two wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65BTB1-16DT	DC input	+COM type	24 VDC/7 mA	8 points	10 ms or less	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.1 mA or less	No	One wire type/One wire type
AJ65BTB2-16DT	DC input	+COM type	24 VDC/7 mA	8 points	10 ms or less	Transistor output	Sink type	12/24 VDC/0.5 A	8 points	0.1 mA or less	No	Two wire type/Two wire type
AJ65BTB2-16DR	DC input	+COM/-COM common type	24 VDC/7 mA	8 points	10 ms or less	Relay output	-	24 VDC, 240 VAC/2.0 A	8 points	-	No	Two wire type/Two wire type

Spring clamp terminal block type AJ65VBTS□-□

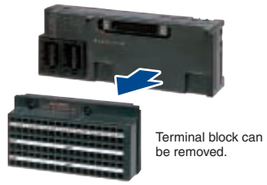
Features

◎Wiring time can be reduced because no screw tightening and retightening are required.

◎The 2-piece structure allows easy servicing as the module can be replaced without rewiring.

◎DIN rail or screw mounting is selectable.

◎3-wire sensor can be connected.



Terminal block can be removed.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65VBTS3-16D	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Three wire type
AJ65VBTS3-32D	DC input	+COM type	24 VDC/5 mA	32 points	1.5 ms or less	Three wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of outputs	Leakage current at OFF	Output protection function	External connection
AJ65VBTS2-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.1 mA or less	No	Two wire type
AJ65VBTS2-32T	Transistor output	Sink type	12/24 VDC/0.5 A	32 points	0.1 mA or less	No	Two wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65VBTS32-16DT	DC input	+COM type	24 VDC/5 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC, 0.5 A	8 points	0.1 mA or less	No	Three wire type/Two wire type
AJ65VBTS32-32DT	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Transistor output	Sink type	12/24 VDC, 0.5 A	16 points	0.1 mA or less	No	Three wire type/Two wire type

▶Sensor connector type

e-CON type AJ65VBTCE□-□

Features

◎Industry-standard e-CON has been adopted.

◎Easy wiring with sensor connectors

◎DIN rail or screw mounting is selectable.

◎3-wire sensor can be connected.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65VBTCE3-8D	DC input	+COM type	24 VDC/5 mA	8 points	1.5 ms or less	Three wire type
AJ65VBTCE3-16D	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Three wire type
AJ65VBTCE3-32D	DC input	+COM type	24 VDC/5 mA	32 points	1.5 ms or less	Three wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65VBTCE2-8T	Transistor output	Sink type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Two wire type
AJ65VBTCE2-16T	Transistor output	Sink type	12/24 VDC/0.1 A	16 points	0.1 mA or less	Yes	Two wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of inputs	Input response time	Output type		Rated load voltage /current	Number of outputs	Leakage current at OFF	Output protection function	External connection
AJ65VBTCE32-16DT	DC input	+COM type	24 VDC/5 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Three wire type/Two wire type
AJ65VBTCE32-32DT	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.1 mA or less	Yes	Three wire type/Two wire type

Push-in connector type AJ65SBTC□-□ AJ65VBTCU□-□

Features

◎Easy wiring with sensor connectors

◎3-wire sensor can be connected.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65VBTCU3-8D1	DC input	+COM type	24 VDC/5 mA	8 points	0.2 ms or less	Three wire type
AJ65VBTCU3-16D1	DC input	+COM type	24 VDC/5 mA	16 points	0.2 ms or less	Three wire type
AJ65SBTC4-16DN	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Four wire type
AJ65SBTC4-16DE	DC input	-COM type	24 VDC/5 mA	16 points	1.5 ms or less	Four wire type
AJ65SBTC1-32D	DC input	+COM/-COM common type	24 VDC/5 mA	32 points	1.5 ms or less	One wire type
AJ65SBTC1-32D1	DC input	+COM/-COM common type	24 VDC/5 mA	32 points	0.2 ms or less	One wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65VBTCU2-8T	Transistor output	Sink type	12/24 VDC, 0.1 A	8 points	0.1 mA or less	Yes	Two wire type
AJ65VBTCU2-16T	Transistor output	Sink type	12/24 VDC, 0.1 A	16 points	0.1 mA or less	Yes	Two wire type
AJ65SBTC1-32T	Transistor output	Sink type	12/24 VDC, 0.1 A	32 points	0.25 mA or less	Yes	One wire type
AJ65SBTC1-32T1	Transistor output	Sink type	12/24 VDC, 0.1 A	32 points	0.1 mA or less	No	One wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65SBTC4-16DT	DC input	+COM type	24 VDC/5 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.25 mA or less	Yes	Four wire type
AJ65SBTC4-16DT2	DC input	+COM type	24 VDC/5 mA	8 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.5 A	8 points	0.1 mA or less	No	Four wire type
AJ65SBTC1-32DT	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTC1-32DT1	DC input	+COM type	24 VDC/5 mA	16 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.25 mA or less	Yes	One wire type/One wire type
AJ65SBTC1-32DT2	DC input	+COM type	24 VDC/5 mA	16 points	1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.1 mA or less	No	One wire type/One wire type
AJ65SBTC1-32DT3	DC input	+COM type	24 VDC/5 mA	16 points	0.2 ms or less	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.1 mA or less	No	One wire type/One wire type

40-pin connector type (FCN connector type)　AJ65SBTCF□-□　AJ65VBTCF□-□

Features

◎The 40-pin connector (FCN connector type) allows connection of various devices.

Input module

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65SBTCF1-32D	DC input	+COM/-COM common type	24 VDC/5 mA	32 points	1.5 ms or less	One wire type

Output module

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65SBTCF1-32T	Transistor output	Sink type	12/24 VDC, 0.1 A	32 points	0.1 mA or less	Yes	One wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of input points	Leakage current at OFF	Output protection function	External connection
AJ65SBTCF1-32DT	DC input	+COM/-COM common type	24 VDC/5 mA	16 points	1.5 ms or less	Transistor output	Sink type	12/24 VDC/0.1 A	16 points	0.1 mA or less	Yes	One wire type
AJ65VBTCF1-32DT1	DC input	+COM/-COM common type	24 VDC/5 mA	16 points	0.2 ms or less	Transistor output	Sink type	12/24 VDC/0.1 A	16 points	0.1 mA or less	Yes	One wire type

Waterproof connector type　AJ65FBTA□-16□

Features

AJ65FBTA□-16□

◎Waterproof type module compliant with the IP67 standard for water resistance

◎Modules can be replaced without stopping the system.

◎Easy connection without using any tool reduces wiring time.

◎Built-in terminator (selected by switch)

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
AJ65FBTA4-16D	DC input	+COM type	24 VDC/7 mA	16 points	1.5 ms or less	Two to four wire type
AJ65FBTA4-16DE	DC input	-COM type	24 VDC/7 mA	16 points	1.5 ms or less	Two to four wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
AJ65FBTA2-16T	Transistor output	Sink type	12/24 VDC/0.5 A	16 points	0.25 mA or less	Yes	Two wire type
AJ65FBTA2-16TE	Transistor output	Source type	12/24 VDC/1.0 A	16 points	0.30 mA or less	Yes	Two wire type

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of input points	Leakage current at OFF	Output protection function	External connection
AJ65FBTA42-16DT	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	12/24 VDC /0.5 A	8 points	0.25 mA or less	Yes	Two to four wire type /Two wire type
AJ65FBTA42-16DTE	DC input	-COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Source type	12/24 VDC /1.0 A	8 points	0.30 mA or less	Yes	Two to four wire type /Two wire type

Analog module

▶Connector type

Analog input modules

Push-in connector type　CC-Link V2

AJ65VBTCU-68ADVN
AJ65VBTCU-68ADIN

Voltage input

Model name	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68ADVN	8 channels	1/3 *3	Remote device station

Current input

Model name	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68ADIN	8 channels	1/3 *3	Remote device station

*3: Three stations are occupied in Ver. 1 mode, or one station is occupied in Ver. 2 mode.

Analog output modules

Push-in connector type　CC-Link V2

AJ65VBTCU-68DAVN

Voltage output

Model name	Number of channels	Number of occupied points	Station type
AJ65VBTCU-68DAVN	8 channels	1/3 *3	Remote device station

▶Terminal block type

Analog input module

Screw terminal block type

AJ65SBT-64AD

Voltage/Current input module

Model name	Number of channels	Number of occupied points	Station type
AJ65SBT-64AD	4 channels	1	Remote device station

Analog output module

Screw terminal block type

AJ65SBT-62DA

Voltage/Current output module

Model name	Number of channels	Number of occupied points	Station type
AJ65SBT-62DA	2 channels	1	Remote device station

Analog input module

Screw/2-piece terminal block type

AJ65BT-64AD

Voltage/Current input module

Model name	Number of channels	Number of occupied points	Station type
AJ65BT-64AD	4 channels	2	Remote device station

Analog output modules

Screw/2-piece terminal block type

AJ65BT-64DAV
AJ65BT-64DAI

Voltage output module

Model name	Number of channels	Number of occupied points	Station type
AJ65BT-64DAV	4 channels	2	Remote device station

Current output module

Model name	Number of channels	Number of occupied points	Station type
AJ65BT-64DAI	4 channels	2	Remote device station

Temperature input modules

Screw/2-piece terminal block type

AJ65BT-68TD
AJ65BT-64RD3
AJ65BT-64RD4

Thermocouple temperature input module

Model name	Number of channels	Number of occupied points	Station type
AJ65BT-68TD	4 channels	4	Remote device station

Platinum resistance temperature sensor Pt 100 temperature input modules

Model name	Number of channels	Number of occupied points	Station type
AJ65BT-64RD3	4 channels	4	Remote device station
AJ65BT-64RD4	4 channels	4	Remote device station

High-speed counter modules

AJ65BT-D62
AJ65BT-D62D
AJ65BT-D62D-S1

Item	AJ65BT-D62	AJ65BT-D62D	AJ65BT-D62D-S1
Pulse input	DC input	Differential input	Differential input
Preset input	DC input	DC input	DC input
Counting range	0 to 16777215 (24-bit binary)	0 to 16777215 (24-bit binary)	0 to 16777215 (24-bit binary)
Number of occupied stations	4	4	4
Station type	Remote device station	Remote device station	Remote device station

Positioning module

AJ65BT-D75P2-S3

Item	AJ65BT-D75P2-S3
Description	2 axes (independent, linear and circular interpolation at the same time), 400 kbps, pulse count from -2147483648 to 2147483647
Number of occupied stations	4
Station type	Intelligent device station

Peripheral device connection module

AJ65BT-G4-S3

Item	AJ65BT-G4-S3
Description	Select master station and local station PLC, and perform online operations: PC read, PC write, monitoring, and test.
Number of occupied stations	1
Station type	Intelligent device station

RS-232 interface module

AJ65BT-R2

Item	AJ65BT-R2
Description	RS-232 1 channel, DC input 2 points/transistor output 2 points
Number of occupied stations	1
Station type	Intelligent device station

PC interface boards

Q80BD-J61BT11N

Features

◎Personal computer equipped with a PCI bus can be incorporated into the CC-Link system.
◎Q80BD-J61BT11N can be used as a CC-Link Ver. 2 compatible master station, standby master station or local station.
◎Drivers compatible with each of the following OS are included.
(Windows® XP, Windows® 2000, Windows® NT ver 4.0)

Item	Q80BD-J61BT11N
Description	CC-Link interface board for IBM compatible PC (for PCI bus slot)
Number of occupied stations	1 to 4
Station type	Master station, standby master station or local station

FX Series interface block

FX2N-32CCL

Features

◎Interface block for connecting Mitsubishi micro-PLCs FX1N, FX2N, FX1NC, FX2NC, FX3UC Series as CC-Link remote device stations.

Item	FX2N-32CCL
Description	FX series interface block
Number of occupied stations	1 to 4
Station type	Remote device station
Applicable PLC	Mitsubishi micro-PLCs •FX1N, FX2N, FX3UC •FX1NC, FX2NC, FX3UC Series (connector conversion module required)

* Microsoft Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Repeater modules

Repeater module — AJ65FBTA-RPH AJ65BTS-RPH AJ65SBT-RPT AJ65SBT-RPS/RPG AJ65BT-RPI-10A/10B

Features

◎The following 4 types are available for various applications.
◎Low profile waterproof type repeater hub:
Star topology, trunk line extension, waterproof structure
◎Spring clamp terminal block type repeater hub:
Startopology, trunk line extension, spring clamp terminal block type
◎Repeater module (T-branch):
T-branch, trunk line extension
◎Optical repeater module:
Wiring in high noise environment, trunk line extension
◎Spatial optic repeater module:
Communications on linear mobile systems

Product Name	Model name	Description	Number of occupied points	Station type
Thin waterproof type Repeater hub module	AJ65FBTA-RPH	Start wiring of up to 8 branches. Wiring of max. length matched to transmission speed is possible for each branch. Waterproof (IP67) structure	-	-
Spring clamp terminal block type repeater hub module	AJ65BTS-RPH	Start wiring of up to 8 branches. Wiring of max. length matched to transmission speed is possible for each branch. Spring clamp terminal block type	-	-
Repeater (T-branch) module	AJ65SBT-RPT	Maximum number of connected levels: 10, T-branch wiring is possible	-	-
Optical repeater modules	AJ65SBT-RPS	SI/QSI-type optical fiber cables are used (combining and using two modules). Maximum number of connected levels: 3, maximum transmission distance: 500 m (SI)/1000 m (QSI)	-	-
	AJ65SBT-RPG	GI-type optical fiber cables are used (combining and using two modules). Maximum number of connected levels: 2, maximum transmission distance: 2000 m	-	-
Space optical repeater modules	AJ65BT-RPI-10A	Use AJ65BT-RPI-10A and AJ65BT-RPT-10B as a set. Transmission speeds of 156 kbps, 625 kbps and 2.5 Mbps are supported.	-/1	Remote I/O station when occupying one station
	AJ65BT-RPI-10B	Wireless transmission distances from 0 to 100 m via infrared light. Optical communication status monitor function	-/1	Remote I/O station when occupying one station

Optional parts for I/O modules

Push-in connector plug

A6CON-P214 (a pack contains 20 pieces)
A6CON-P220 (a pack contains 20 pieces)
A6CON-P514 (a pack contains 20 pieces)
A6CON-P520 (a pack contains 20 pieces)

◎Applicable models
AJ65SBTC□-□ remote I/O module
AJ65VBTCU□-□ remote I/O module
AJ65VBTCU-□ analog module

Push-in connector plug for communication

A6CON-L5P (a pack contains 10 pieces)

◎Applicable models *4

Push-in connector plug for power supply and FG

A6CON-PW5P (a pack contains 10 pieces)
A6CON-PW5P-SOD (a pack contains 10 pieces)

◎Applicable models *4

Push-in connector plug with terminal resistor

A6CON-TR11 (a pack contains 1 piece)

◎Applicable models *4

Online connector for communication

A6CON-LJ5P (a pack contains 5 pieces)

◎Applicable models *4

Online connector for power supply

A6CON-PWJ5P (a pack contains 5 pieces)

◎Applicable models *4

Protective cover for sensor connector type (e-CON) module

A6CVR-VCE8 (a pack contains 10 pieces)
A6CVR-VCE16 (a pack contains 10 pieces)

◎Applicable models
AJ65VBTCE□-□D remote I/O module
AJ65VBTCE□-□T remote I/O module

Protective cover

A6CVR-8 (a pack contains 10 pieces)
A6CVR-16 (a pack contains 10 pieces)
A6CVR-32 (a pack contains 10 pieces)

◎Applicable models
AJ65SBTB□-□ remote I/O module
AJ65SBTC□-□ remote I/O module

40-pin connector type (FCN connector type)

A6CON1 (a pack contains 1 piece)
A6CON2 (a pack contains 1 piece)
A6CON3 (a pack contains 1 piece)

◎Applicable models
AJ65SBTC□-□ remote I/O module
AJ65BTCF□-□ remote I/O module
AJ65VBTCF-□ remote I/O module

Protective cap for unused connector areas

A6CAP-DC1 (a pack contains 20 pieces)
A6CAP-WP1 (a pack contains 10 pieces)

◎Applicable models
AJ65SBTW□-□ remote I/O module

A6CAP-WP2 (a pack contains 20 pieces)

◎Applicable models
AJ65FBTA□-□ remote I/O module

Module mounting fitting

A6PLT1V (a pack contains 5 pieces)
A6PLT2V (a pack contains 5 pieces)

◎Applicable models
AJ65VBTCU□-□ remote I/O module
AJ65VBTCU-□ analog module

*4: AJ65VBTS□-□ remote I/O module, AJ65VBTCE□-□ remote I/O module, AJ65VBTCU□-□ remote I/O module, AJ65VBTCU-□analog module, AJ65SBT-CLB CC-Link to CC-Link/LT bridge module

CC-Link/LT

Master modules

For the Q Series

QJ61CL12

Current consumption : 130 mA (5 VDC, supplied from PLC),
28 mA (24 VDC, supplied from power adapter)
Current at start-up : 70 mA (24 VDC, supplied from power adapter)
Weight : 0.09 kg

For the FX3UC Series

FX3UC-32MT-LT

Inrush current : Max.30 mA 0.5 ms/24 VDC
Current consumption : 7 W
Built-in power supply : 24 VDC 350 mA (for CC-Link/LT network)
Weight : 0.25 kg

For the FX Series

FX2N-64CL-M

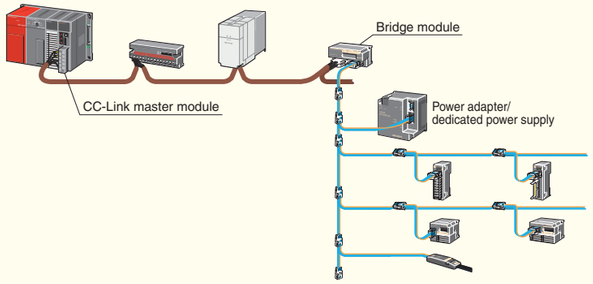
Current consumption : 190 mA (5 VDC, supplied from PLC),
25 mA (24 VDC, supplied from power adapter)
Current at start-up : 35 mA (24 VDC, supplied from power adapter)
Weight : 0.15 kg

CC-Link to CC-Link/LT bridge module

AJ65SBT-CLB

Current consumption : 75 mA (24 VDC, supplied from power adapter)
Current at start-up : 165 mA (24 VDC, supplied from power adapter)
Weight : 0.09kg

Configuration example of bridge module



Remote I/O modules

▶Terminal block type

Screw terminal block type

CL1X4-D1B2 CL2X8-D1B2 CL1Y4-T1B2 CL1Y4-R1B2
CL1Y4-R1B1 CL2Y8-TP1B2 CL1XY4-DT1B2 CL1XY4-DR1B2
CL1XY8-DT1B2 CL1XY8-DR1B2

Features

◎The industry's most compact size.
◎Terminal block cover with nameplate showing connected devices.
◎Input modules with a shared common (+COM /-COM)
◎Terminal block structure enabling simple connection of 2-wire sensors or other loads.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
CL1X4-D1B2	DC input	+COM/-COM common type	24 VDC/4 mA	4 points	0.5 ms/1.5 ms or less	Two wire type
CL2X8-D1B2	DC input	+COM/-COM common type	24 VDC/4 mA	8 points	0.5 ms/1.5 ms or less	Two wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1Y4-T1B2	Transistor output	Sink type	12/24 VDC/0.1 A	4 points	0.1 mA or less	No	Two wire type
CL2Y8-TP1B2	Transistor output	Sink type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Two wire type
CL1Y4-R1B2	Relay output	-	24 VDC, 240 VAC/2 A	4 points	-	No	Two wire type
CL1Y4-R1B1	Relay output	-	24 VDC, 240 VAC/2 A	4 points	-	No	1 point 1 common (independent)

Combined I/O modules

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1XY4-DT1B2	DC input	+COM/-COM common type	24 VDC/4 mA	2 points	1.5 ms	Transistor output	Sink type	12/24 VDC /0.1 A	2 points	0.1 mA or less	No	Two wire type
CL1XY8-DT1B2	DC input	+COM/-COM common type	24 VDC/4 mA	4 points	1.5 ms	Transistor output	Sink type	12/24 VDC /0.1 A	4 points	0.1 mA or less	No	Two wire type
CL1XY4-DR1B2	DC input	+COM/-COM common type	24 VDC/4 mA	2 points	1.5 ms	Relay output	-	24 VDC, 240 VAC /2 A	2 points	-	No	Two wire type
CL1XY8-DR1B2	DC input	+COM/-COM common type	24 VDC/4 mA	4 points	1.5 ms	Relay output	-	24 VDC, 240 VAC /2 A	4 points	-	No	Two wire type

Spring clamp terminal block

CL1X4-D1S2 CL1Y4-T1S2 CL2X8-D1S2
CL2Y8-TP1S2 CL2Y8-TPE1S2

Features

◎Retightening not required. Applicable wire size is 0.3 to 1.5mm^2 (AWG22 to 16).
◎Two-piece structure (the terminal block section is removable.)
◎Input modules with a shared common (+COM /-COM)

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
CL1X4-D1S2	DC input	+COM/-COM common type	24 VDC/4 mA	4 points	0.5 ms/1.5 ms	Two wire type
CL2X8-D1S2	DC input	+COM/-COM common type	24 VDC/4 mA	8 points	0.5 ms/1.5 ms	Two wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1Y4-T1S2	Transistor output	Sink type	12/24 VDC/0.1 A	4 points	0.1 mA or less	No	Two wire type
CL2Y8-TP1S2	Transistor output	Sink type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Two wire type
CL2Y8-TPE1S2 NEW	Transistor output	Source type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Two wire type

▶Connector type

Sensor connector type (e-CON)

CL1X4-D1C3 CL1Y4-T1C2 CL2X8-D1C3V CL2Y8-TP1C2V CL2X16-D1C3V CL2Y16-TP1C2V CL2XY16-DTP1C5V

Features

◎The industry's most compact size.
◎DIN rail or screw mounting is selectable.
◎3-wire sensor can be connected.

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
CL1X4-D1C3	DC input	+COM type	24 VDC/4 mA	4 points	0.5 ms/1.5 ms or less	Three wire type
CL2X8-D1C3V	DC input	+COM type	24 VDC/4 mA	8 points	0.5 ms/1.5 ms or less	Three wire type
CL2X16-D1C3V	DC input	+COM type	24 VDC/4 mA	16 points	0.5 ms/1.5 ms or less	Three wire type

Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1Y4-T1C2	Transistor output	Sink type	24 VDC/0.1 A	4 points	0.1 mA or less	No	Two wire type
CL2Y8-TP1C2V	Transistor output	Sink type	24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Two wire type
CL2Y16-TP1C2V	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.1 mA or less	Yes	Two wire type

Combined I/O module

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL2XY16-DTP1C5V	DC input	+COM/-COM common type	24 VDC/4 mA	8 points	0.5 ms/1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	8 points	0.1 mA or less	Yes	Three wire type /Two wire type

MIL connector type

CL2X16-D1M1V CL2Y16-TP1M1V CL2Y16-TPE1M1V

Features

◎The industry's most compact size.
◎MIL connector used for easy connection to relay terminals, terminal block conversion modules, solenoid valves, etc.
◎Simple module replacement by only removing the connector.
◎Source type is added.

Input module

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
CL2X16-D1M1V	DC input	+COM type	24 VDC/4 mA	16 points	0.5 ms/1.5 ms or less	One wire type

Output module

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL2Y16-TP1M1V	Transistor output	Sink type	24 VDC, 0.1 A	16 points	0.1 mA or less	Yes	One wire type
CL2Y16-TPE1M1V NEW	Transistor output	Source type	24 VDC, 0.1 A	16 points	0.1 mA or less	Yes	One wire type

▶Cable type

Cable connector type

CL1X2-D1D3S CL1Y2-T1D2S CL1XY2-DT1D5S

Features

◎The industry's most compact size
◎Can be housed in a duct like cables
◎Integration of communication cables and external device connection cables for easy wiring
◎Cables (50cm) provided to both communication and I/O sides

Input module

Model name	Input type		Rated input voltage/current	Number of input points	Input response time	External connection
CL1X2-D1D3S	DC input	+COM type	24 VDC/4 mA	2 points	0.5 ms/1.5 ms or less	Three wire type

Output module

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1Y2-T1D2S	Transistor output	Sink type	24 VDC/0.1 A	2 points	0.1 mA or less	No	Two wire type

Combined I/O module

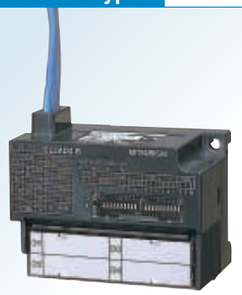
Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function	External connection
CL1XY2-DT1D5S	DC input	+COM type	24 VDC/4 mA	1 point	1.5 ms or less	Transistor output	Sink type	24 VDC/0.1 A	1 point	0.1 mA or less	No	Three wire type /Two wire type

Analog modules

▶Terminal block type

Analog input module

Screw terminal block type CL2AD4-B



Features

◎Efficient usage of I/O points (No. of occupied stations) is available because the points can be changed by the preset conversion-enabled channel.
(No. of occupied stations changes depending on the setting of the channel for which conversion is enabled.)
◎Dedicated flat cable (50cm) is directly connected to a module.

Voltage/Current input module

Model name	Number of channels	Number of occupied stations
CL2AD4-B	4 channels	16-point mode 4 stations occupied

Analog output module

Screw terminal block type CL2DA2-B

Features

◎Efficient usage of I/O points (No. of occupied stations) is available because the points can be changed by the preset conversion-enabled channel.
(No. of occupied stations changes depending on the setting of the channel for which conversion is enabled.)
◎Dedicated flat cable (50cm) is directly connected to a module.

Voltage/Current output module

Model name	Number of channels	Number of occupied stations
CL2DA2-B	2 channels	16-point mode 2 stations occupied

Dedicated power supply

Dedicated power supply CL1PSU-2A

Features

◎Power supply dedicated to the CC-Link/LT system, with built-in 2A power supply

Item		CL1PSU-2A
Input	Rated voltage	100/120/200/230/240 VAC
	Allowable voltage range	85 to 264 VAC
	Rated frequency	50/60 Hz
	Power fuse	3.15 A
	Inrush current	Max. 60 A/200 VAC
Output	Output voltage	24 VDC +10%/-5%
	Output current	0.01A to 2A derating according to ambient temperature and line voltage [Use so that the current consumption does not exceed 2A when power is supplied (excluding immediately after power ON).]
	Ripple noise	500 mVp-p or less
External wiring method		·Allowable power supply terminal blocks 3 points to dedicated power supply (M3 screws) ·Communication section and power supply section to CC-Link/LT system: Depending on CC-Link/LT dedicated connector (4-pin) x 2
Weight (kg)		0.40

Power supply adapter

Power supply adapter CL1PAD1

Features

◎Ensuring a stable power supply from the external power source (optional) to the CC-Link/LT system.

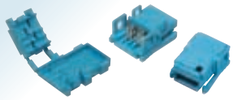
Item	CL1PAD1
Voltage input range	Depending on connected model. Max. 28.8 VDC
Max. rated current	5.0 A *5
Isolation resistance	Across all external terminals and ground terminal 500 VDC, 10 MW by insulation resistance tester
External connection method	Module power supply: terminal block 3 pins (M3 screws) Power supply for supplying power to communication line/module: CC-Link/LT dedicated connector (4-pin) x 2
Weight (kg)	0.26

*5 In regular operation, use so that the max. rated current is not exceeded.

Optional parts

Connector for Dedicated flat cable connection

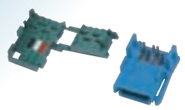
CL9-CNF-18



Mitsubishi Electric System & Service Engineering Co.,Ltd.

Connector for VCTF cable connection

CL9-CNR-23



Mitsubishi Electric System & Service Engineering Co.,Ltd.

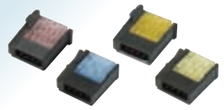
Connector for movable cable connection

CL9-CNR-20

Mitsubishi Electric System & Service Engineering Co.,Ltd.

Open sensor connector (e-CON)

ECN-****



Mitsubishi Electric System & Service Engineering Co.,Ltd.

Terminal resistor

CL9-TERM

Mitsubishi Electric System & Service Engineering Co.,Ltd.

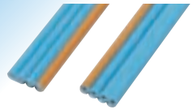
Terminal resistor

CL9-RYVK

Mitsubishi Electric System & Service Engineering Co.,Ltd.

Dedicated flat cable

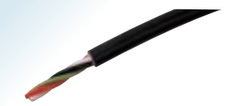
CL9-FL4-18



Mitsubishi Electric System & Service Engineering Co.,Ltd.

Dedicated flexible cable

CL9-MV4-075



Mitsubishi Electric System & Service Engineering Co.,Ltd.

Tool for spring clamp terminal block

KD-5339

Mitsubishi Electric System & Service Engineering Co.,Ltd.

Pressure welding tool for communication connector

L-TOOL-N

Mitsubishi Electric System & Service Engineering Co.,Ltd.

Pressure welding tool for open sensor connector

e-TOOL-N

Mitsubishi Electric System & Service Engineering Co.,Ltd.

Screw terminal block/common terminal block

CL2TE-5

Mitsubishi Electric Corporation

Spring clamp terminal block/common terminal block

CL2TE-10S

Mitsubishi Electric Corporation

Holder

CL1-HLD

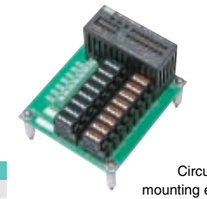
Mitsubishi Electric Corporation

Embedded modules

Embedded I/O adapter AJ65MBTL1N-16D AJ65MBTL1N-32D AJ65MBTL1N-16T AJ65MBTL1N-32T AJ65MBTL1N-16DT

Features

Mounting this product to your circuit board allows easy development of remote I/O stations.



Circuit board mounting example

Input modules

Model name	Input type		Rated input voltage/current	Number of input points	Input response time
AJ65MBTL1N-16D	DC input	+COM type	24 VDC/4 mA	16 points	1.5 ms or less
AJ65MBTL1N-32D	DC input	+COM type	24 VDC/4 mA	32 points	1.5 ms or less

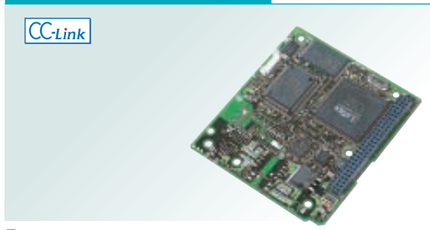
Output modules

Model name	Output type		Rated load voltage/current	Number of output points	Leakage current at OFF	Output protection function
AJ65MBTL1N-16T	Transistor output	Sink type	24 VDC/0.1 A	16 points	0.1 mA or less	Yes
AJ65MBTL1N-32T	Transistor output	Sink type	24 VDC/0.1 A	32 points	0.1 mA or less	Yes

Combined I/O module

Model name	Input type		Rated input voltage /current	Number of input points	Input response time	Output type		Rated load voltage /current	Number of output points	Leakage current at OFF	Output protection function
AJ65MBTL1N-16DT	DC input	+COM type	24 VDC/7 mA	8 points	1.5 ms or less	Transistor output	Sink type	12/24 VDC/0.1 A	8 points	0.1 mA or less	Yes

CC-Link Ver.2 embedded interface board Q50BD-CCV2



Features

◎Sub-circuit board compatible with CC-Link Ver.2. Adding on this to a main circuit board enables development of master, local and intelligent device stations.

Model name	Description
Q50BD-CCV2	CC-Link Ver.2 embedded interface board

Object development MFP1N Device kit

The actual modules may slightly differ in shapes from the photo shown.

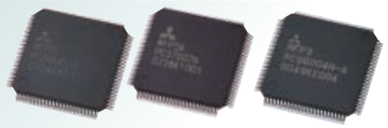
Features

◎The MFP1N device kit enables development of master stations, local stations and intelligent device stations.

Product Name	MFP1N		Device kit
Ordering model name	A6GA-CCMFP1NN60F	A6GA-CCMFP1NN300F	Q6KT-NPC20G51
Package unit	60 PCS	300 PCS	40 PCS
Application	Master station•local station•intelligent device station		Network circuit

MFP:Mitsubishi Field-network Processor

Dedicated communication LSI MFP2N MFP2AN MFP3N



The actual modules may slightly differ in shapes from the photo shown.

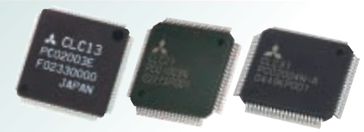
Features

◎CC-Link compatible devices can be developed easily without worrying about the communication protocol. Also the CC-Link communication protocol is built-in.

Product Name	MFP2AN		MFP2N		MFP3N	
Ordering model name	A6GA-CCMFP2ANN 60F	A6GA-CCMFP2ANN 300F	A6GA-CCMFP2NN 60F	A6GA-CCMFP2NN 300F	A6GA-CCMFP3NN 60F	A6GA-CCMFP3NN 300F
Package unit	60 PCS	300 PCS	60 PCS	300 PCS	60 PCS	300 PCS
Application	Remote I/O station		Remote I/O station		Remote device station	

MFP:Mitsubishi Field-network Processor

Dedicated communication LSI CLC13 CLC21 CLC31



The actual modules may slightly differ in shapes from the photo shown.

Features

◎CC-Link/LT compatible devices can be developed easily without worrying about the communication protocol. Also the CC-Link/LT communication protocol is built-in.

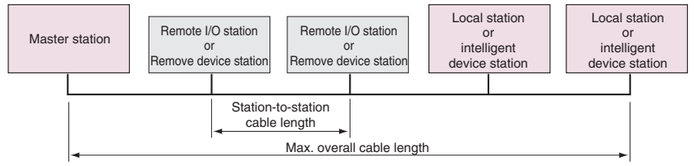
Product Name	CLC13	CLC21		CLC31
Ordering model name	CL2GA13-60	CL2GA21-60	CL2GA21-300	CL2GA31-60
Package unit	60 PCS	60 PCS	300 PCS	60 PCS
Application	Master station	Remote I/O station		Remote device station

CLC:CC-Link/LT Controller

*For the development of CC-Link products that use MFP, "Open Field Network CC-Link, CC-Link/LT Compatible Product Development Guidebook (L(NA)-08052E-A)" is available.
*For details or lead-free/RoHS compatible products, contact the Open System Center.

You are requested to become a member of the CC-Link Partner Association (CLPA) to purchase these embedded modules.

CC-Link (Ver.1.10) specifications

Item		Specifications
Control specification	Maximum number of link points	Remote I/O(RX,RY) :2048 points each Remote register(RWw) :256 words Remote register(RWr) :256 words
	Number of links per station	Remote I/O(RX,RY) :32 points each Remote register(RWw) :4 words Remote register(RWr) :4 words
Communication specification	Communication speed	10M/5M/2.5M/625k/156kbps
	Transmission method	Broadcast polling method
	Synchronous method	Frame synchronous method
	Encoding method	NRZI method
	Transmission path	Bus type (conforming to EIA RS485)
	Transmission format	conforming to HDLC
	Error control system	CRC ($X^{16} + X^{12} + X^5$ x 1)
	Number of connected modules	64 modules. However, the following conditions must be satisfied. (1 x a) + (2 x b) + (3 x c) + (4 x d) ≤ 64 a: Number of modules occupying 1 station, b: Number of modules occupying 2 stations, c: Number of modules occupying 3 stations, d: Number of modules occupying 4 stations (16 x A) + (54 x B) + (88 x C) ≤ 2304 A: Number of remote I/O stations ---------- Max. 64 modules B: Number of remote device stations ---------- Max. 42 modules C: Local station, standby master station, intelligent device station ---------- Max. 26 modules
	Remote station No.	1 to 64
	Maximum total cable length and cable length between stations	 CC-Link Ver.1.10 compatible cable (100Ω terminator used) When Ver1.10 and Ver1.00 products are mixed, the max. overall cable length and the station-to-station cable length conform to the Ver1.00 specifications.
	Connection cable	Dedicated cable compatible with CC-Link Version 1.10 • Use the dedicated cable certified by CC-Link Partnership Association. • Please note that operation will not be guaranteed if the other cable is used. • Cables from different manufacturers can be used together if they support Version 1.10. • For the specifications of the CC-Link dedicated cable or the contact information on them, refer to the partner product catalogs published by CC-Link Partner Association or visit its web site at http://www.cc-link.org
Function	Auto refresh function*1 RAS functions (standby master, automatic return, slave station separation, link special relay, error detection by the register, test/monitor) *1 May not be supported depending on CPUs to be used together. *2 This function is available only for the Q Series.	Remote I/O network mode*1 Scan synchronous function Automatic CC-Link startup*2 Reserved station function Error invalid station setting function Support for duplex function*2

Communication speed	Station-to-station cable length	Max. overall cable length
156 kbps	20 cm or more	1200 m
625 kbps		900 m
2.5 Mbps		400 m
5 Mbps		160 m
10 Mbps		100 m

Differences between CC-Link Ver.2 and Ver.1

With Ver. 2, the cyclic data size can be increased through extended cyclic setting.

CC-Link Ver.1 specification

Item		Specifications		
Maximum number of link points		Remote I/O(RX, RY):2048 points each	Remote register (RWw): 256 words	Remote register (RWr): 256 words
Number of link points per station		Remote I/O(RX, RY):32 points each	Remote register (RWw): 4 words each	Remote register (RWr): 4 words each
Number of linked points for each occupied station number	1 station occupied	Remote I/O(RX, RY):32 points each	Remote register (RWw): 4 words each	Remote register (RWr): 4 words each
	2 station occupied	Remote I/O(RX, RY):64 points each	Remote register (RWw): 8 words each	Remote register (RWr): 8 words each
	3 station occupied	Remote I/O(RX, RY):96 points each	Remote register (RWw): 12 words each	Remote register (RWr): 12 words each
	4 station occupied	Remote I/O(RX, RY):128 points each	Remote register (RWw): 16 words each	Remote register (RWr): 16 words each
Number of connected modules		1) Total number of stations (1 x a) + (2 x b) + (3 x c) + (4 x d) ≤ 64 a: Number of modules 1 occupied station, b: Number of modules 2 occupied stations, c: Number of modules 3 occupied stations, d: Number of modules 4 occupied stations 2) Number of connected units (16 x a) + (54 x b) + (88 x c) ≤ 2304 A: Number of remote I/O station ---------- Max. 64 modules B: Number of remote device station ---------- Max. 42 modules C: Local stations, waiting master stations, intelligent device stations ---------- Max. 26 modules		

CC-Link Ver.2 specification

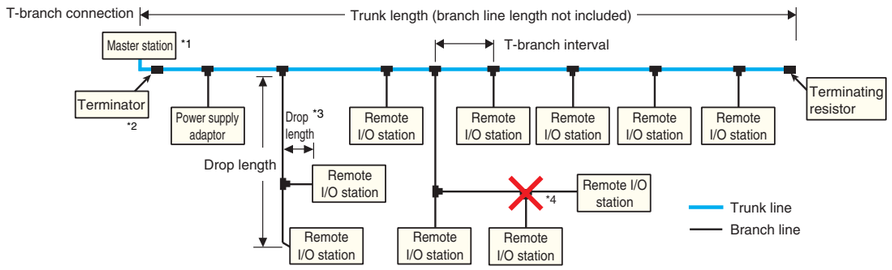
Item			Specifications			
Maximum number of link points			Remote I/O(RX, RY):8192 points each, Remote register(RWw):2048 points, Remote register(RWr):2048 points			
Expanded cycle setting			1X setting	2X setting	4X setting	8X setting
Number of link points per station		Remote I/O(RX, RY)	32 points each	32 points each	64 points each	128 points each
		Remote register(RWw)	4 words	8 words	16 words	32 words
		Remote register(RWr)	4 words	8 words	16 words	32 words
Number of Linked points for each occupied station number	1 station occupied	Remote I/O(RX, RY)	32 points each	32 points each	64 points each	128 points each
		Remote register(RWw)	4 words	8 words	16 words	32 words
		Remote register(RWr)	4 words	8 words	16 words	32 words
	2 station occupied	Remote I/O(RX, RY)	64 points each	96 points each	192 points each	384 points each
		Remote register(RWw)	8 words	16 words	32 words	64 words
		Remote register(RWr)	8 words	16 words	32 words	64 words
	3 station occupied	Remote I/O(RX, RY)	96 points each	160 points each	320 points each	640 points each
		Remote register(RWw)	12 words	24 words	48 words	96 words
		Remote register(RWr)	12 words	24 words	48 words	96 words
	4 station occupied	Remote I/O(RX, RY)	128 points each	224 points each	448 points each	896 points each
		Remote register(RWw)	16 words	32 words	64 words	128 words
		Remote register(RWr)	16 words	32 words	64 words	128 words
Number of connected modules			1) Total number of stations (a + a2 + a4 + a8) + (b + b2 + b4 + b8) x 2 + (c + c2 + c4 + c8) x 3 + (d + d2 + d4 + d8) x 4 ≤ 64 2) Number of input/output points of all remote stations (a x 32 + a2 x 32 + a4 x 64 + a8 x 128) + (b x 64 + b2 x 96 + b4 x 192 + b8 x 384) + (c x 96 + c2 x 160 + c4 x 320 + c8 x 640) + (d x 128 + d2 x 224 + d4 x 448 + d8 x 896) ≤ 8192 3) Number of all remote register words (a x 4 + a2 x 8 + a4 x 16 + a8 x 32) + (b x 8 + b2 x 16 + b4 x 32 + b8 x 64) + (c x 12 + c2 x 24 + c4 x 48 + c8 x 96) + (d x 16 + d2 x 32 + d4 x 64 + d8 x 128) ≤ 2048 a: Number of modules of 1x setting of 1 occupied station a2: Number of modules of 2x setting of 1 occupied station a4: Number of modules of 4x setting of 1 occupied station a8: Number of modules of 8x setting of 1 occupied station b: Number of modules of 1x setting of 2 occupied station b2: Number of modules of 2x setting of 2 occupied station b4: Number of modules of 4x setting of 2 occupied station b8: Number of modules of 8x setting of 2 occupied station c: Number of modules of 1x setting of 3 occupied station c2: Number of modules of 2x setting of 3 occupied station c4: Number of modules of 4x setting of 3 occupied station c8: Number of modules of 8x setting of 3 occupied station d: Number of modules of 1x setting of 4 occupied station d2: Number of modules of 2x setting of 4 occupied station d4: Number of modules of 4x setting of 4 occupied station d8: Number of modules of 8x setting of 4 occupied station 4) Number of connected modules 16 x A+54 x B+88 x C ≤ 2304 A: Number of modules of remote I/O stations ---------- Max. 64 modules B: Number of remote device stations ---------- Max. 42 modules C: Local station, waiting master station, intelligent device station ---------- Max. 26 modules			

* 2) and 3) are Ver. 2 mode only; calculation is necessary.
* There is no change in the cable and wiring specification for CC-Link Ver. 2. Use Ver. 1 cable for the connection of Ver. 2 devices.

CC-Link/LT specifications

Item				4-point mode	8-point mode	16-point mode
Control specifications	Maximum number of link points Points within parentheses assume that I/O are used			256 points (512 points)	512 points (1024 points)	1024 points (2048 points)
	Number of link points per station Points within parentheses assume that I/O are used			4 points (8 points)	8 points (16 points)	16 points (32 points)
	Link scan time (ms)	When 32 stations are connected	Number of points	128 points	256 points	512 points
			2.5 Mbps	0.7	0.8	1.0
			625 kbps	2.2	2.7	3.8
			156 kbps	8.0	10.0	14.1
		When 64 stations are connected	Number of points	256 points	512 points	1024 points
			2.5 Mbps	1.2	1.5	2.0
			625 kbps	4.3	5.4	7.4
			156kbps	15.6	20.0	27.8
Communication specification	Communication speed (bps)			2.5 M/625 k/156 k		
	Protocol			BITR(Broadcast polling+Interval Timed Response)		
	Network topology			T-branch		
	Error control method			CRC		
	Number of connected units			64		
	Remote station numbers			1 to 64		
	Maximum number of modules connected in 1 drop line			8		
	Distance between stations			No restriction		
	T-branch interval			No restriction		
	Master station connection position			Connected to the end of the main line		
	RAS functions			Network diagnostics, internal loopback diagnostics, slave station separation, automatic return to system		
	Connection cable			Dedicated flat cable(0.75mm^2 x 4), VCTF cable, Movable cable		

CC-Link/LT network wiring specifications



Item	Specifications			Remarks
Communication speed	2.5 Mbps	625 kbps	156 kbps	-
Distance between stations	No restriction			-
Maximum number of modules connected in 1 drop line	8 units			-
Maximum trunk length	35 m	100 m	500 m	Cable length between terminating resistors (Branch line length not included)
T-branch interval	No restriction			-
Maximum drop length	4 m	16 m	60 m	Cable length per branch
Cumulative drop line length	15 m	50 m	200 m	Sum of all branch lines

*1 Always install the master module at one end of the trunk line.
*2 Install the terminating resistor near the master module (within 20 cm).
*3 The length branched from the drop line is also included in the maximum drop length and cumulative drop line length.
*4 Cables cannot be connected between drop lines.

Precautions when mixed cables are used

1. *Different types of cables cannot be used together in the trunk line.*
2. *Different types of cables cannot be used together in the same drop line.*
   * When the module with cable (e.g. CL1Y2-T1D2S) is used, it can be connected to a different type of cable by making sure the dedicated cables in within 20 cm.
3. *Dedicated flat cables, VCTF cables and flexible cables can be used together in drop lines.*
   * The wiring specifications do not change depending on the used cables and mixed use of cables.

General specifications

Item	Specifications				
	CC-Link		CC-Link/LT		
Operating ambient temperature	0 to 55℃*4				
Storage ambient temperature	-20 to 75℃*4		-25 to 75℃*5		
Operating ambient humidity	10 to 90% RH, no condensation allowed*5 (The waterproof type remote I/O modules conform to the IP67 standard.*7)		5 to 95% RH, no condensation allowed (conforming to JIS B 3502, IEC61131-2, level RH-2)		
Storage ambient humidity	10 to 90% RH, no condensation allowed*6		5 to 95% RH, no condensation allowed		
Vibration resistance	Conforming to JIS B 3502, IEC61131-2		Frequency	Acceleration	Amplitude	Sweep count
		Under intermittent vibration	10 to 57 Hz	-	0.075 mm	10 times each in X, Y, Z directions (for 80 minutes)
			57 to 150 Hz	9.8 m/s²	-	
		Under continuous vibration	10 to 57 Hz	-	0.035 mm	
			57 to 150 Hz	4.9 m/s²	-	
Shock resistance	Conforming to JIS B 3502, IEC 61131-2 (147m/s², 3 times in each of directions X, Y, Z)				
Dielectric withstand voltage *1	500 VAC across all DC external terminals and ground for 1 min				
Insulation resistor *1	500 VAC across all DC external terminals and ground, 10 MΩ or more by insulation resistance tester				
Operating atmosphere	No corrosive gases				
Operating altitude	Conforming to JIS B 3502, IEC 61131-2 (2000 m or less) *8				
Installation place	Inside control box				
Overvoltage category *2	Conforming to JIS B 3502, IEC 61131-2 (category II or less)				
Pollution degree *3	Conforming to JIS B 3502, IEC 61131-2, pollution level 2 or less				

*1: Interface boards for use in PCs depend on the PC used.
*2: This indicates to which power-distribution area the device is connected until it reaches the mechanical device within the premises from the public distribution grid.
Category II is applied to devices to which power is supplied from a fixed facility.
Voltage-surge resistance of devices is provided up to a rating of 300 V is 2500 V.
*3: This index shows the degree of generation of conductive substances in the environment where the device is used.
Only non-conductive pollution occurs in pollution level 2. However, conduction may occur temporarily due to accidental condensation.
*4: The table below shows the operating ambient temperature and storage ambient temperature for the AJ65SBTW4-16□ type waterproof remote I/O modules and Q Series master module.

Item		AJ65SBTW4-16□	AJ65FBTA-RPH	Q Series Master module
Operating ambient temperature		0 to 45℃	0 to 45℃	0 to 55℃
Storage ambient temperature	Not wired (standalone product)	-20 to 65℃	-25 to 75℃	-25 to 75℃
	Wired (after inserting cable)	-10 to 55℃	-	-

*5: The ambient operating/storage temperatures satisfy requirements in excess of the JIS B 3502, IEC61131-2 standards.
*6: Use the master module for the Q Series within an ambient operating humidity of 5 to 95%.
*7: This is applicable to conditions where waterproof connectors are used for all modules or waterproof caps are placed in unused through-pipes.
*8: Do not operate or store the programmable logic controller at altitude 0m or more in a pressurized environment. It may malfunction if it is operated.
Contact us when operating in a pressurized state.

Memo

Get more information on the Website. MELFANSweb answers your questions about Mitsubishi FA products.

MELFANSweb offers a variety of FA device information.

"MELFANSweb" covers many kinds of information related to Mitsubishi FA devices. With over 100,000 hits each day, this website has received overwhelming support of the users. It contains various information such as technical news and product information to powerfully back up all of Mitsubishi FA product users. The advantages include:

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MITSUBISHI ELECTRIC FA NETWORK SERVICE ON WORLD WIDE

- Real-time internet search for the latest FA information
- More than 2000 online manuals with enormous amount of information
- Wide range of information from basic technique to advanced working-level CAD data

MELFANSweb home page URL

http://wwwf2.MitsubishiElectric.co.jp/melfansweb/english/

Responding to the amenable running of FA systems through an enhanced support system.

Global FA Centers

"Mitsubishi Global FA Centers" have been established at each of the North America, Europe and Asia regions for the development of products matched to overseas planning and to enhance regional-based services. Full-time staff will provide you with optimum service.

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Area covered: Southeast Asia, India

CC-Link - Open and Global !
CLPA is supporting the spread of CC-Link.

**Exhibiting in trade shows, conducting conformance tests, sending out the latest information...
Through these and other popularization activities, CLPA is extending the possibilities of CC-Link.**

The Japan-original open field network, CC-Link. CLPA (CC-Link Partner Association), in which Mitsubishi Electric also participates, was established with a view to spreading CC-Link to the world. Through vigorous activities such as planning and running trade shows and seminars, conducting conformance tests, and providing information by catalogs, pamphlets, and the Internet, the number of CLPA partner manufacturers and CC-Link compatible products is increasing steadily, and the CLPA is becoming a driving force for the globalization of CC-Link.

CC-Link Partner Association

This web site provides the latest CC-Link information.

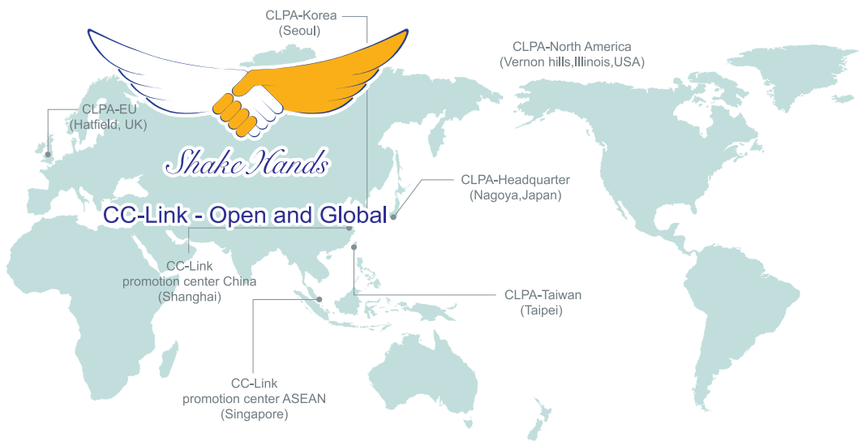
6F Meiji Yasuda Seimei Ozone Bldg., 3-15-58, Ozone, Kita-ku,
Nagoya 462-0825, Japan
TEL : +81-52-919-1588 / FAX :+81-52-916-8655
URL: http://www.cc-link.org E-mail: cc-link.@post0.mind.ne.jp

■Conformance tests support the rapid increase of compatible products.

■Exhibitions and seminars are held to recruit new partner members.

CC-Link - Open and Global!
CC-Link is accelerating toward a global network.

CLPA has established CLPA offices all over the world in order to spread CC-Link to Japanese and overseas manufacturers. Through positive activities such as exhibiting in trade shows in the major cities and setting up conformance test organizations, CLPA sends out information designed to expand the potential of CC-Link and increasing the number of CLPA partners.



WARRANTY

Please confirm the following product warranty details before using this product.

Gratis warranty term and gratis warranty range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

■ Gratis Warranty Term

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

■ Gratis Warranty Range

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.

(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.

1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued.
Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.

(2) Product supply (including repair parts) is not available after production is discontinued.

Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not , compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

Product application

(1) In using the Mitsubishi MELSEC programmable logic controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable logic controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.

(2) The Mitsubishi programmable logic controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the programmable logic controller applications.
In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the programmable logic controller range of applications.
However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.

CC-Link Related Product Model Names

Module type		Model name	Specifications	IP indication
Master/local module		AJ61BT11	Master/local module for AnN/AnA/AnUCPU	—
		A1SJ61BT11	Master/local module for AnS/AnSH/AnUS/AnUSHCPU	—
		AJ61QBT11	Master/local module for QnACPU	—
		A1SJ61QBT11	Master/local module for QnAS/QnASHCPU	—
		QJ61BT11N	Master/local module for CC-Link Ver.2-compatible QCPU	IP1XB
		FX2N-16CCL-M	Master block for FX Series (FX1N/FX2N/FX2NC/FX3UC)	—
Remote I/O module	Screw terminal block type	AJ65SBTB2N-8A	Input 8 points: 100 to 120 VAC 2-wire type Response time 20 ms Terminal block type	IP1X
		AJ65SBTB2N-16A	Input 16 points: 100 to 120 VAC 2-wire type Response time 20 ms Terminal block type	IP1X
		AJ65SBTB1-8D	Input 8 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 1.5 ms Terminal block type	IP2X
		AJ65SBTB3-8D	Input 8 points: 24 VDC (positive common/negative common shared type) 3-wire type Response time 1.5 ms Terminal block type	IP2X
		AJ65SBTB1-16D	Input 16 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 1.5 ms Terminal block type	IP2X
		AJ65SBTB1-16D1	Input 16 points: 24 VDC (positive common/negative common shared type) 1-wire type High-speed response Response time 0.2 ms Terminal block type	IP2X
		AJ65SBTB3-16D	Input 16 points: 24 VDC (positive common/negative common shared type) 3-wire type Response time 1.5 ms Terminal block type	IP2X
		AJ65SBTB1-32D	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 1.5 ms Terminal block type	IP2X
		AJ65SBTB1-32D1	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type High-speed response Response time 0.2 ms Terminal block type	IP2X
		AJ65SBTB1-8T	Output 8 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-8T1	Output 8 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB2-8T	Output 8 points: 12/24VDC (0.5A) Transistor output (sink type) 2-wire type Terminal block type	IP2X
		AJ65SBTB2-8T1	Output 8 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-16T	Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-16T1	Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB2-16T	Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type	IP2X
		AJ65SBTB2-16T1	Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-32T	Output 32 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-32T1	Output 32 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-8TE	Output 8 points: 12/24 VDC (0.1 A) Transistor output (source type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-16TE	Output 16 points: 12/24 VDC (0.1 A) Transistor output (source type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1B-16TE1 NEW	Output 16 points: 12/24 VDC (0.5 A) Transistor output (source type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-32TE1 NEW	Output 32 points: 12/24 VDC (0.5 A) Transistor output (source type) 1-wire type Terminal block type	IP2X
		AJ65SBTB2N-8R	Output 8 points: 24 VDC/240 VAC (2 A) Relay output 2-wire type Terminal block type	IP1X
		AJ65SBTB2N-16R	Output 16 points: 24 VDC/240 VAC (2 A) Relay output 2-wire type Terminal block type	IP1X
		AJ65SBTB2N-8S	Output 8 points: 100 to 240 VAC (0.6 A) Triac output 2-wire type Terminal block type	IP1X
		AJ65SBTB2N-16S	Output 16 points: 100 to 240 VAC (0.6 A) Triac output 2-wire type Terminal block type	IP1X
		AJ65SBTB32-8DT	Input 4 points: 24 VDC (positive common) 3-wire type Response time 1.5 ms Output 4 points: 24 VDC(0.5 A) Transistor output (sink type) 2-wire type Terminal block type	IP2X
		AJ65SBTB32-8DT2	Input 4 points: 24 VDC (positive common) 3-wire type Response time 1.5 ms Output 4 points: 24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type(low-leakage current type)	IP2X
		AJ65SBTB1-16DT	Input 8 points: 24 VDC (positive common)1-wire type Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-16DT1	Input 8 points: 24 VDC (positive common)1-wire type High-speed response Response time 0.2 ms Output 8 points: 24 VDC (0.5 A)Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-16DT2	input 8 points: 24 VDC (positive common) 1-wire type Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-16DT3	Input 8 points: 24 VDC (positive common) 1-wire type High-speed response Response time 0.2 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB32-16DT	Input 8 points: 24 VDC (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 VDC(0.5 A)Transistor output(sink type)2-wire type Terminal block type	IP2X
		AJ65SBTB32-16DT2	Input 8 points: 24VDC (positive common) 3-wire type Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-32DT	Input16 points: 24 VDC (positive common) 1-wire type Response time 1.5 ms Output16 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-32DT1	Input16 points: 24 VDC (positive common) 1-wire type High-speed response Response time 0.2 ms Output16 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65SBTB1-32DT2	Input16 points: 24 VDC (positive common) 1-wire type Response time 1.5 ms Output16 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-32DT3	Input16 points: 24 VDC (positive common) 1-wire type High-speed response Response time 0.2 ms Output16 points: 24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type (low-leakage current type)	IP2X
		AJ65SBTB1-32DTE1 NEW	Input16 points: 24 VDC (negative common) 1-wire type High-speed response Response time 1.5 ms Output16 points: 24 VDC (0.5 A) Transistor output (source type) 1-wire type Terminal block type	IP2X
	Screw/2-piece terminal block type	AJ65BTB1-16D	Input16 points: 24 VDC (positive common/negative common shared type) 1-wire type Terminal block type Response time 10 ms	IP2X
		AJ65BTB2-16D	Input16 points: 24 VDC (positive common/negative common shared type) 2-wire type Terminal block type Response time 10 ms	IP2X
		AJ65BTB1-16T	Output16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65BTB2-16T	Output16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type Terminal block type	IP2X
		AJ65BTB2-16R	Output16 points: 24 VDC/240 VAC (2 A) Relay output 2-wire type Terminal block type	IP1X
		AJ65BTB1-16DT	Input 8 points: 24 VDC (positive common) Response time 10 ms Output 8 points: 12/24 VDC (0.5A) Transistor output (sink type) 1-wire type Terminal block type	IP2X
		AJ65BTB2-16DT	Input 8 points: 24 VDC (positive common) Response time 10 ms Output 8 points: 12/24 VDC (0.5 A)Transistor output (sink type) 2-wire type Terminal block type	IP2X
		AJ65BTB2-16DR	Input 8 points: 24 VDC (positive common/negative common shared type) Response time 10 ms Output 8 points: 24 VDC/240 VAC (2 A) Relay output 2-wire type Terminal block type	IP1X
	Spring clamp terminal block type	AJ65VBTS3-16D	Input16 points: 24 VDC/5 mA (positive common type) 2-wire type Response time 1.5 ms	IP2X
		AJ65VBTS3-32D	Input32 points: 24 VDC/5 mA (positive common type) 2-wire type Response time 1.5 ms	IP2X
		AJ65VBTS2-16T	Output16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTS2-32T	Output32 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTS32-16DT	Input 8 points: 24 VDC/5 mA (positive common type) 2-wire type Response time 10.1 ms Output 8 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTS32-32DT	Input 16 points: 24 VDC/5 mA (positive common type) 2-wire type Response time 10.1 ms Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type	IP2X
	Sensor connector type	AJ65VBTCE3-8D	Input 8 points: 24 VDC/5 mA (positive common type) 3-wire type Response time 1.5 ms	IP2X
		AJ65VBTCE3-16D	Input 16 points: 24 VDC/5 mA (positive common type) 3-wire type Response time 1.5 ms	IP2X
		AJ65VBTCE3-32D	Input 32 points: 24 VDC/5 mA (positive common type) 3-wire type Response time 1.5 ms	IP2X

Module type		Model name	Specifications	IP indication
Remote I/O module	Sensor connector type	AJ65VBTCE2-8T	Output 8 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTCE2-16T	Output16 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTCE32-16DT	Input 8 points: 24 VDC/5 mA (positive common type) 3-wire type Response time 1.5 ms Output 8 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type	IP2X
		AJ65VBTCE32-32DT	Input 16 points: 24 VDC/5 mA (positive common type) 3-wire type Response time 1.5 ms Output 16 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type	IP2X
	Immediate installation connector type	AJ65VBTCU3-8D1	Input 8 points: 24 VDC (positive common) 3-wire type Response time 0.2 ms Immediate installation connector type	IP1XB
		AJ65VBTCU3-16D1	Input16 points: 24 VDC (positive common) 3-wire type Response time 0.2 ms Immediate installation connector type	IP1XB
		AJ65SBTC4-16DN	Input16 points: 24 VDC (positive common) 4-wire type Response time 1.5 ms Immediate installation connector type	IP2X
		AJ65SBTC4-16DE	Input16 points: 24 VDC (negative common) 4-wire type Response time 1.5 ms Immediate installation connector type	IP2X
		AJ65SBTC1-32D	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type Immediate installation connector type (plug: sold separately) Response time 1.5 ms	IP2X
		AJ65SBTC1-32D1	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type High-speed response Immediate installation connector type (plug: sold separately) Response time 0.2 ms	IP2X
		AJ65VBTCU2-8T	Output 8 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type Immediate installation connector type	IP1XB
		AJ65VBTCU2-16T	Output 16 points: 12/24 VDC (0.1 A) Transistor output (sink type) 2-wire type Immediate installation connector type	IP1XB
		AJ65SBTC1-32T	Output 32 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector: sold separately)	IP2X
		AJ65SBTC1-32T1	Output 32 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector type (low-leakage current type)	IP2X
		AJ65SBTC4-16DT	Input 8 points: 24 VDC (positive common) 4-wire type (for 8 sensors) Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 4-wire type Immediate installation connector type (plug: sold separately)	IP2X
		AJ65SBTC4-16DT2	Input 8 points: 24 VDC (positive common) 4-wire type Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) 4-wire type Immediate installation connector type (plug: sold separately) (low-leakage current type)	IP2X
		AJ65SBTC1-32DT	Input 16 points: 24 VDC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 VDC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector type (plug: sold separately)	IP2X
		AJ65SBTC1-32DT1	Input 16 points: 24 VDC (positive common) 1-wire type High-speed response Response time 0.2 ms Output 16 points: 24 VDC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector type (plug: sold separately)	IP2X
		AJ65SBTC1-32DT2	Input 16 points: 24 VDC (positive common) 1-wire type Response time 1.5 ms Output 16 points: 24 VDC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector type (plug: sold separately) (low-leakage current type)	IP2X
		AJ65SBTC1-32DT3	Input 16 points: 24 VDC (positive common) 1-wire type High-speed response Response time 0.2ms Output 16 points: 24V DC (0.1 A) Transistor output (sink type) 1-wire type Immediate installation connector type (plug: sold separately) (low-leakage current type)	IP2X
	40-pin connector type (FCN connector type)	AJ65SBTCF1-32D	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 1.5 ms FCN connector type (40-pin connector)	IP2X
		AJ65BTC1-32D	Input 32 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 10 ms FCN connector type (40-pin connector)	IP2X
		AJ65SBTCF1-32T	Output 32 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type FCN connector type (40-pin connector)	IP2X
		AJ65BTC1-32T	Output 32 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type FCN connector type (40-pin connector)	IP2X
		AJ65SBTCF1-32DT	Input 16 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 1.5 ms Output 16 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type FCN connector type (40-pin connector)	IP2X
		AJ65VBTCF1-32DT1	Input 16 points: 24 VDC (positive common/negative common shared type) 1-wire type Response time 0.2 ms Output 16 points: 12/24 VDC (0.1 A) Transistor output (sink type) 1-wire type FCN connector type	IP1XB
	Waterproof connector type	AJ65FBTA4-16D	Input 24 VDC (positive common) 4-wire type Thin, waterproof type Response time 1.5 ms	IP67
		AJ65FBTA4-16DE	Input 24 VDC (negative common) 4-wire type Thin, waterproof type Response time 1.5 ms	IP67
		AJ65SBTW4-16D	Input 16 points: 24 VDC Response time 1.5 ms Waterproof type 4-wire type (for 8 sensors) (positive common/negative common shared: select by switch) (cap: sold separately) Waterproof type	IP67
		AJ65FBTA2-16T	Output 16 points: 12/24 VDC (0.5 A) Transistor output (sink type) 2-wire type Thin, waterproof type	IP67
		AJ65FBTA2-16TE	Output 16 points: 12/24 VDC (1.0 A) Transistor output (source type) 2-wire type Thin, waterproof type	IP67
		AJ65FBTA42-16DT	Input 8 points: 24 VDC (positive common) 4-wire type Response time 1.5 ms Output 8 points: 24 VDC (0.5 A)Transistor output sink type 2-wire type Thin, waterproof type	IP67
		AJ65FBTA42-16DTE	Input 8 points: 24 VDC (negative common) 4-wire type Response time 1.5 ms Output 8 points: 24 VDC (1.0 A) Transistor output (source type) 2-wire type Thin, waterproof type	IP67
		AJ65SBTW4-16DT	Input 8 points: 24 VDC (positive common) Waterproof type 4-wire type (for 8 sensors) Response time 1.5 ms Output 8 points: 24 VDC (0.5 A) Transistor output (sink type) (cap: sold separately)	IP67
Analog module	Screw terminal block type — Voltage/current input	AJ65SBT-64AD	4-channel voltage/current input A/D conversion module (analog input module)	IP2X
		AJ65BT-64AD	4-channel voltage/current input A/D conversion module (analog input module)	IP2X
	Screw terminal block type — Temperature input	AJ65BT-64RD3	4-channel Pt100 (3-wire type) input Platinum RTD Pt100 temperature input	IP2X
		AJ65BT-64RD4	4-channel Pt100 (4-wire type) input Platinum RTD Pt100 temperature input	IP2X
		AJ65BT-68TD	8-channel thermocouple output Thermocouple temperature input module	IP2X
	Screw terminal block type — Voltage/current output	AJ65SBT-62DA	2-channel voltage/current input D/A conversion module (analog input module)	IP2X
	Screw terminal block type — Voltage output	AJ65BT-64DAV	4-channel voltage output D/A conversion module (analog input module)	IP2X
	Screw terminal block type — Current output	AJ65BT-64DAI	4-channel current output D/A conversion module (analog input module)	IP2X
	Immediate installation connector type — Voltage input	AJ65VBTCU-68ADVN	CC-Link Ver.2-compatible 8-channel voltage input A/D conversion module (analog input module)	IP1XB
	Immediate installation connector type — Current input	AJ65VBTCU-68ADIN	CC-Link Ver.2-compatible 8-channel current input A/D conversion module (analog input module)	IP1XB
	Immediate installation connector type — Voltage output	AJ65VBTCU-68DAVN	CC-Link Ver.2-compatible 8-channel voltage output D/A conversion module (analog input module)	IP1XB
High-speed counter module		AJ65BT-D62	DCinput Preset DC input	IP2X
		AJ65BT-D62D	Differential input Preset DC input	IP2X
		AJ65BT-D62D-S1	Differential input Preset differential input	IP2X
Positioning module		AJ65BT-D75P2-S3	2axes (independent, w/ linear and circular interpolation)	IP2X
Peripheral device connection module		AJ65BT-G4-S3	PC read/PC write/monitor/test of master and local stations	IP2X
RS-232 interface module		AJ65BT-R2	RS-232 1-channel, w/ DC input 2 points Transistor output 2 points	IP2X
Interface board for personal computer		Q80BD-J61BT11N	CC-Link interface board for an IBM PC/AT compatible PC (for PCI bus slot: master station, standby master station or local station)	—
FX Series interface block		FX2N-32CCL	Interface block for FX1N, FX2N, FX3U, FX1NC, FX2NC, FX3UC Series	—
Repeater module	Thin, waterproof type repeater hub module	AJ65FBTA-RPH	8-port star wiring hub module repeater function, IP67-compatible	IP67
	Spring clamp terminal block type repeater hub module	AJ65BTS-RPH NEW	8-port star wiring hub module repeater function, Spring clamp terminal block type	—
	Repeater (T-branch) module	AJ65SBT-RPT	T-branch module w/ repeater function	IP2X
	Optical repeater module	AJ65SBT-RPS	For SI/QSI type fiber cable (2 units used in combination)	IP2X
		AJ65SBT-RPG	For GI type fiber cable (2 units used in combination)	IP2X
	Spatial optical repeater module	AJ65BT-RPI-10A	AJ65BT-RPI-10A and AJ65BT-RPI-10B used as a pair, 156k/625k/2.5Mbps supported	IP2X
		AJ65BT-RPI-10B		IP2X

* Positive common: sink, negative common: source

Module type		Model name	Specifications	IP indication
Embedded type I/O module		AJ65MBTL1N-16D	Input 16 points : 24 VDC (positive common) Pin header type 44-pin (2 rows) Embedded type Response time 1.5ms	—
		AJ65MBTL1N-16T	Output 16 points : 12/24 VDC (0.1 A) Transistor output (sink type) Pin header type 44-pin (2 rows) Imbedded type	—
		AJ65MBTL1N-16DT	Input 8 points : 24 VDC (positive common) Response time 1.5ms Output 8 points : 24 VDC (0.1 A) Transistor output (sink type) Pin header type 44-pin (2 rows) Imbedded type	—
		AJ65MBTL1N-32D	Input 32 points : 24 VDC (positive common) Pin head type 62-pin (2 rows) Imbedded type Response time 1.5ms	—
		AJ65MBTL1N-32T	Output 32 points : 12/24 VDC (0.1 A) Transistor output (sink type) Pin head type 62-pin (2 rows) Imbedded type	—
Embedded type interface board		Q50BD-CCV2	For CC-Link Ver.2 compatible master/local/intelligent device station	—
Object development	MFP1N	A6GA-CCMFP1NN60F	Communication LSI for lead-free/RoHS compatible master/local/intelligent device station (60pcs)	—
		A6GA-CCMFP1NN300F	Communication LSI for lead-free/RoHS compatible master/local/intelligent device station (300pcs)	—
	Device kit	Q6KT-NPC2OG51	For network circuit (Flash ROM x 1pc, SPLD x 2pcs)	—
Dedicated communication LSI	MFP2AN	A6GA-CCMFP2ANN 60F	Communication LSI for lead-free/RoHS compatible remote I/O station (16 points) (60pcs)	—
		A6GA-CCMFP2ANN 300F	Communication LSI for lead-free/RoHS compatible remote I/O station (16 points) (300pcs)	—
	MFP2N	A6GA-CCMFP2NN 60F	Communication LSI for lead-free/RoHS compatible remote I/O station (32 points) (60pcs)	—
		A6GA-CCMFP2NN 300F	Communication LSI for lead-free/RoHS compatible remote I/O station (32 points) (300pcs)	—
	MFP3N	A6GA-CCMFP3NN 60F	Communication LSI for lead-free/RoHS compatible remote device station (60pcs)	—
		A6GA-CCMFP3NN 300F	Communication LSI for lead-free/RoHS compatible remote device station (300pcs)	—

* Positive common: sink, negative common: source

Optional parts for I/O module

■ Immediate installation connector type

Product Name	Model name	Specifications		
		Plug color	Applicable cable core (mm^2)	Applicable cable outside diameter (mm)
Immediate installation connector plugs (20pcs)	A6CON-P214	Transparent	0.14 to 0.2 (AWG #26 to 24)	1.0 to 1.4 mm dia.
	A6CON-P220	Yellow		1.4 to 2.0 mm dia.
	A6CON-P514	Red	0.3 to 0.5 (AWG #22 to 20)	1.0 to 1.4 mm dia.
	A6CON-P520	Blue		1.4 to 2.0 mm dia.
Immediate installation connector plugs for communication (10pcs)	A6CON-L5P	Immediate installation connector type for communication 5-pin [transmission circuit terminal (pressure welding type)] Applicable cable: FANC-110SBH (made by Kurashiki Denko Co., Ltd.) CS10 (made by Daiden Co., Ltd.)		
Immediate installation connector plugs for power supply/FG (10pcs)	A6CON-PW5P	Power supply: Immediate installation connector type for power supply 5-pin [module power supply terminal, I/O power supply terminal, FG terminal (pressure welding type)] Applicable wire size: 0.66 to 0.98 mm^2 (AWG18) [2.2 to 3.0 mm dia.] wire diameter 0.16 mm or more		
	A6CON-PW5P-SOD	Power supply: Immediate installation connector type for power supply 5-pin [module power supply terminal, I/O power supply terminal, FG terminal (pressure welding type)] Applicable wire size: 0.66 to 0.98 mm^2 (AWG18) [2.2 to 3.0 mm dia.] wire diameter 0.16 mm or more		
Immediate installation connector plugs w/ terminator (1pcs)	A6CON-TR11	Immediate installation connector type for communication w/ terminator (110 W) When the connector type remote I/O is used for the end station on the network, be sure to use this terminator.		

■ Online connector

Product Name	Model name	Specifications
Online connector for communication (5pcs)	A6CON-LJ5P	Online connector for communication 5-pole (10-pin)
Online connector for power supply (5pcs)	A6CON-PWJ5P	Online connector for power supply 5-pole (10-pin)

■ Protective cover for remote I/O module

Product Name	Model name	Applicable module
Protective cover for 8-point module (10pcs)	A6CVR-8	AJ65SBTB1-8D, AJ65SBTB1-8T, AJ65SBTB1-8TE, AJ65SBT-RPT
	A6CVR-VCE8	AJ65VBTCE3-8D, AJ65VBTCE2-8T
Protective cover for 16-point module (10pcs)	A6CVR-16	AJ65SBTB1-16D, AJ65SBTB1-16D1, AJ65SBTC1-32D, AJ65SBTC1-32D1, AJ65SBTB3-8D, AJ65SBTB2-8A, AJ65SBTB2N-8A, AJ65SBTB1-16T, AJ65SBTB1-16T1, AJ65SBTC1-32T, AJ65SBTB2-8T, AJ65SBTB1-16TE, AJ65SBTB2-8R, AJ65SBTB2N-8R, AJ65SBTB2-8S, AJ65SBTB2N-8S, AJ65SBTC1-32DT, AJ65SBTC1-32DT1, AJ65SBTC4-16D, AJ65SBTC4-16DT, AJ65SBTB1-16DT, AJ65SBTB1-16DT1, AJ65SBTB32-8DT, AJ65SBT-RPG, AJ65SBT-RPS
	A6CVR-VCE16	AJ65VBTCE3-16D, AJ65VBTCE2-16T, AJ65VBTCE32-16DT
Protective cover for 32-point module (10pcs)	A6CVR-32	AJ65SBTB1-32D, AJ65SBTB1-32D1, AJ65SBTB3-16D, AJ65SBTB2-16A, AJ65SBTB2N-16A, AJ65SBTB1-32T, AJ65SBTB1-32T1, AJ65SBTB2-16T, AJ65SBTB2N-16R, AJ65SBTB2-16S, AJ65SBTB2N-16S, AJ65SBTB1-32DT, AJ65SBTB1-32DT1, AJ65SBTB32-16DT

■ Unused connector protective cap

Product Name	Model name	Specifications
Dustproof cap (20pcs)	A6CAP-DC1	For unused connector protective cap, dustproof dedicated (not IP67-compatible)
Waterproof cap (20pcs)	A6CAP-WP1	For unused connector protective cap, waterproof protective structure: IP67-compatible, applicable for AJ65SBTW□-□ I/O module
	A6CAP-WP2	For unused connector protective cap, waterproof protective structure: IP67-compatible, applicable for AJ65SFBTA□-□ I/O module

■ 40-pin connector (FCN connector)

Product Name	Model name	Specifications
40-pin connector (FCN connector) (1pcs)	A6CON1	Soldered type (straight-out type)
	A6CON2	Pressure welding type (straight-out type)
	A6CON3	Pressure welding type (flat cable type)

■ Module mounting fixture

Product Name	Model name	Applicable module
Module mounting fixture (5pcs)	A6PLT-J65V1	AJ65VBTCU3-8D1, AJ65VBTCU2-8T, AJ65VBTCU3-16DT, AJ65VBTCU2-16T
	A6PLT-J65V2	

CC-Link/LT Related Product Model Names

Mitsubishi Electric Corporation

Module type			Model name	Specifications	IP indication
Master module			QJ61CL12	CC-Link/LT master module for Q Series	IP2X
			FX2N-64CL-M	CC-Link/LT master module for FX1N, FX2N, FX1NC, FX2NC	IP2X
			FX3UC-32MT-LT	FX3UC series Micro PLC (Built-In CC-Link/LT master function)	—
Bridge module			AJ65SBT-CLB	CC-Link - CC-Link/LT bridge module	IP2X
Remote I/O module	Screw terminal block type		CL1X4-D1B2	Input 4 points : 24 VDC (positive common/negative common shared)	IP2X
			CL2X8-D1B2	Input 8 points : 24 VDC (positive common/negative common shared)	IP2X
			CL1Y4-T1B2	Output 4 points : 12/24 VDC (sink type) 0.1A Transistor output	IP2X
			CL2Y8-TP1B2	Output 8 points : 12/24 VDC (sink type) 0.1A Transistor module (w/ output protection function)	IP2X
			CL1Y4-R1B2	Output 4 points : 30 VDC , 250 VAC or less 2A Relay output	IP1X
			CL1Y4-R1B1	Output 4 points : 30 VDC , 250 VAC or less 2A Relay output 1 point 1 common (independent)	IP1X
			CL1XY4-DT1B2	Input 2 points : 24 VDC (positive common/negative common shared) Output 2 points : 12/24 VDC (sink type) 0.1A Transistor output	IP2X
			CL1XY8-DT1B2	Input 4 points : 24 VDC (positive common/negative common shared) Output 4 points : 12/24 VDC (sink type) 0.1ATransistor output	IP2X
			CL1XY4-DR1B2	Input 2 points : 24 VDC (positive common/negative common shared) Output 2 points : 30 VDC , 250 VAC or less (sink type) 2A Relay output	IP1X
			CL1XY8-DR1B2	Input 4 points : 24 VDC (positive common/negative common shared) Output 4 points : 30 VDC , 250 VAC or less 2ARelay output	IP1X
	Spring clamp terminal block type		CL1X4-D1S2	Input 4 points : 24 VDC (positive common/negative common shared)	IP2X
			CL2X8-D1S2	Input 8 points : 24 VDC (positive common/negative common shared)	IP2X
			CL1Y4-T1S2	Output 4 points : 12/24 VDC (sink type) 0.1A Transistor output	IP2X
			CL2Y8-TP1S2	Output 8 points : 12/24 VDC (sink type) 0.1A Transistor output	IP2X
			CL2Y8-TPE1S2	Output 8 points : 12/24 VDC (source type) 0.1A Transistor output	IP2X
	Sensor connector type (e-CON)		CL1X4-D1C3	Input 4 points : 24 VDC (positive common)	IP2X
			CL2X8-D1C3V	Input 8 points : 24 VDC (positive common)	IP2X
			CL2X16-D1C3V	Input 16 points : 24 VDC (positive common)	IP2X
			CL1Y4-T1C2	Output 4 points : 24 VDC (sink type) 0.1A Transistor output	IP2X
			CL2Y8-TP1C2V	Output 8 points : 24 VDC (sink type) 0.1A Transistor module (output protection function)	IP2X
			CL2Y16-TP1C2V	Output 16 points : 24 VDC (sink type) 0.1A Transistor module (output protection function)	IP2X
			CL2XY16-DTP1C5V	Input 8 points : 24 VDC (positive common) Output 8 points : 24 VDC (sink type) 0.1A Transistor module (output protection function)	IP2X
	MIL connector type		CL2X16-D1M1V	Input 16 points : 24 VDC (positive common)	IP2X
			CL2Y16-TP1M1V	Output 16 points : 12/24 VDC (sink type) 0.1A Transistor module (output protection function)	IP2X
			CL2Y16-TPE1M1V	Output 16 points : 12/24 VDC (source type) 0.1A Transistor module (output protection function)	IP2X
	Cable type		CL1X2-D1D3S	Input 2 points : 24 VDC (positive common)	IP2X
			CL1Y2-T1D2S	Output 2 points : 24 VDC (sink type) 0.1ATransistor output	IP2X
			CL1XY2-DT1D5S	Input 1 points : 24 VDC (positive common) Output 1 points : 24 VDC (sink type) 0.1ATransistor output	IP2X
Analog module	Screw terminal block type	Voltage/current input	CL2AD4-B	4-channel voltage/current input A/D conversion module (analog input module)	—
		Voltage/current output	CL2DA2-B	2-channel voltage/current output D/A conversion module (analog output module)	—
Dedicated power supply			CL1PSU-2A	CC-Link/LT dedicated power supply (2A)	IP1X
Power supply adapter			CL1PAD1	Power supply adapter (5A) for CL1PAD1 CC-Link/LT	IP2X
Communication LSI for master station	CLC13		CL2GA13-60	Communication LSI for lead-free/RoHS compatible master station (60pcs)	—
Communication LSI for remote I/O station	CLC21		CL2GA21-60	Communication LSI for lead-free/RoHS compatible remote I/O station (60pcs)	—
			CL2GA21-300	Communication LSI for lead-free/RoHS compatible remote I/O station (300pcs)	—
Communication LSI for remote device station	CLC31		CL2GA31-60	Communication LSI for remote device station (60pcs)	—
Accessories	Common terminal block		CL2TE-5	Common terminal block for screw terminal block (applicable model: CL2X8-D1B2, CL2Y8-TP1B2)	—
			CL2TE-10S	Spring clamp terminal block type common terminal block (applicable model : CL2X8-D1S2)	—
	Holder		CL1-HLD	Holder for cable type mounting (5pcs)	—

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Module type		Model name	Specifications
Accessories	Communication connector	CL9-CNF-18	Connector for CC-Link/LT dedicated flat cable connection
		CL9-CNR-23	Connector for CC-Link/LT dedicated VCTF connection
		CL9-CNR-20	Connector for CC-Link/LT dedicated flexible cable connection
	Cable	CL9-FL4-18	CC-Link/LT dedicated flat cable
		CL9-MV4-075	CC-Link/LT dedicated flexible cable
	Terminator connector	CL9-TERM	Terminator for dedicated flat cable, VCTF and dedicated flexible cable
		CL9-RYVK	Terminator for dedicated flat cable
	Open sensor connector (e-CON)	ECN-******	I/O connector for sensor connector type *: The model name varies according to the connector color or wire diameter
	Tool	L-TOOL-N	Pressure welding tool for communication connector
		e-TOOL-N	Pressure welding tool for open sensor connector
		KD-5339	Tool for spring clamp terminal block

Open Field Network CC-Link, CC-Link/LT Catalog

Precautions for Choosing the Products

This catalog explains the typical features and functions of the Q series PLCs and does not provide restrictions and other information on usage and module combinations. When choosing the products, always check the detailed specifications, restrictions, etc. of the products in the Q series data book. When using the products, always read the user's manuals of the products.
Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

⚠ For safe use

- To use the products given in this catalog properly, always read the "manuals" before starting to use them.
- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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